ZebraNet®

Wireless Print Server

User Guide

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Preface

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Contacts

You can contact Zebra Technologies at the following.

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http://www.zebra.com

The Americas

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Document Conventions

The following conventions may be used throughout this document to convey certain information:

Alternate Color (online only) Cross-references contain hot links to other sections in this guide. If you are viewing this guide online in `.pdf` format, you can click the cross-reference (blue text) to jump directly to its location.

Command Line Examples All command line examples appear in `Courier New` font. For example, you would type the following to get to the Post-Install scripts in the `bin` directory:

```
Ztools
```

Files and Directories All file names and directories appear in `Courier New` font. For example, the `Zebra<version number>.tar` file and the `/root` directory.

Cautions, Important, Note, and Example

Caution • Warns you of the potential for electrostatic discharge.

Caution • Warns you of a potential electric shock situation.

Caution • Warns you of a situation where excessive heat could cause a burn.

Caution • Advises you that failure to take or avoid a specific action could result in physical harm to you.

Caution • (no icon) Advises you that failure to take or avoid a specific action could result in physical harm to the hardware.

Important • Advises you of information that is essential to complete a task.

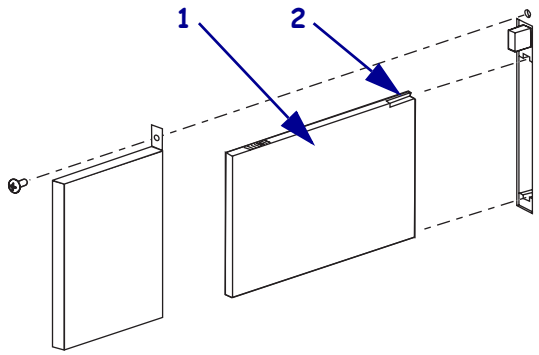
Note • Indicates neutral or positive information that emphasizes or supplements important points of the main text.

Example • Provides an example, often a scenario, to better clarify a section of text.

Tools • Tells you what tools you need to complete a given task.

Illustration Callouts Callouts are used when an illustration contains information that needs to be labeled and described. A table that contains the labels and descriptions follows the graphic. Figure 1 provides an example.

Figure 1 • Sample Graphic with Callouts



1	Wireless card
2	Notch

1 Introduction

This chapter provides an overview of the ZebraNet Wireless Print Server.

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Printer Compatibility

This version of the ZebraNet Wireless Print Server is designed for the following printers/print engines. Future releases will support additional Zebra printers.

- *Xi*III*Plus*
- R*Xi*
- 105*SL* with serial number greater than 6400356

Important • Do not install the wireless PCMCIA board on a 105*SL* printer with a serial number less than 6400357.

- Z4Mplus/Z6Mplus
- *PAX*4
- S4M operating in ZPL or EPL mode

This feature replaces the Wireless Card Socket Option (WCSO) in the *Xi*III*Plus* and in 105*SL* printers with a serial number greater than 6400356.

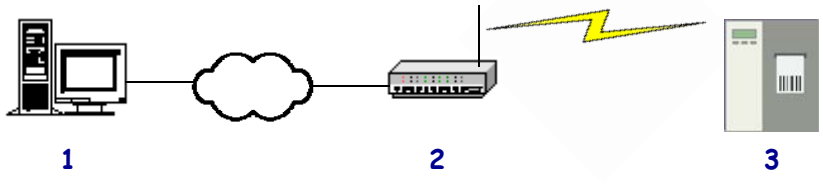
A special Personal Computer Memory Card International Association (PCMCIA) board must be installed inside the printer for the wireless feature to work. Contact your authorized Zebra reseller for more information.

Connecting to a Wireless Network

The ZebraNet Wireless Print Server is an Ethernet connectivity option for your printer. Rather than being connected to a wired Local Area Network (LAN) with physical wires, the printer communicates with a wireless LAN (WLAN) through a wireless card.

Figure 2 shows the network architecture of a typical WLAN setup.

Figure 2 • WLAN Setup with ZebraNet Wireless Print Servers



1	Computer (stand-alone or laptop)
2	Access point
3	Printer configured for Wireless Print Server operation and equipped with compatible wireless card

Third-Party Components

As shown in Figure 2, two critical WLAN components for ZebraNet Wireless Print Server operation are a wireless card and an access point. These components are not provided with the Wireless Print Server.

Supported Wireless Cards

A third-party PCMCIA wireless card is required for the printer to communicate with the WLAN. After the ZebraNet Wireless Print Server PCMCIA board is installed, the wireless card inserts into a slot in the back of the printer.

The following wireless cards are supported at the time of this release:

Cisco

- 802.11b Aironet AIR-PCMC340
- 802.11b Aironet AIR-PCMC341
- 802.11b Aironet AIR-PCMC342
- 802.11b Aironet PCMC350
- 802.11b Aironet PCMC351
- 802.11b Aironet PCMC352

Symbol

- 802.11b Spectrum24 High Rate Direct Sequence PN:LA-4111-1000-US
- 802.11b Spectrum24 High Rate Direct Sequence PN:LA-4111-1010-US
- 802.11b Spectrum24 High Rate Direct Sequence PN:LA-4121-1000-US
- 802.11b Spectrum24 High Rate Direct Sequence PN:LA-4121-1020-US
- 802.11b Spectrum24 High Rate Direct Sequence PN:LA-4121-1120-US

Note • Check the operating conditions (such as temperature and humidity) for the wireless card that you choose. If the card has more restrictions than the printer, this may limit the conditions under which you can operate the printer with a wireless connection.

Access Point

A third-party access point forms a bridge between the WLAN and wired LAN. Select an access point that is compatible with the supported wireless cards that you will use with the ZebraNet Wireless Print Server.

Multiple access points can be used to extend the coverage of the wireless LAN. The reassociation capabilities of the IEEE 802.11b standard enable clients to move throughout the WLAN area and roam between access points. Reassociation can occur as long as the ZebraNet Wireless Print Server is on the same network configurations and ESSID (network name) as the access point to which it is trying to connect.

Interaction between Wired and Wireless Print Servers

Your printer can have both a wired and a wireless print server installed. One functions as the active print server, and the other is present as a backup in the event that the other loses functionality.

Check for Wired Print Server

Note • Only one print server can be installed in the S4M at one time, so this check does not occur.

By default, the printer skips the check for a wired print server during bootup, making the Wireless Print Server the primary connection. To change this and allow the wired print server to be the primary device when it is connected, use the ZPL command ^NB to tell the printer to check for a wired print server at boot time. For more information on this command, see *^NB* on page 34.

Table 1 shows which print server will be the primary connection under different conditions.

Table 1 • Results of Check for Wired Print Server

Wired Print Server Connected?	Check for Wired Print Server?	Results
Yes	Skip	The printer skips the check for a wired print server. The wired print server is not acknowledged, and the Wireless Print Server is used as the primary print server.
Yes	Check	The printer checks for a wired print server. If the wired print server is detected, it is used as the primary print server. If it is not detected, the Wireless Print Server is used as the primary print server.
No	Skip	The printer uses the Wireless Print Server as the primary print server without taking the time to check for a wired print server.
No	Check	During bootup, the printer tries for 70 seconds to detect a wired print server. After finding that one is not connected, the printer uses the Wireless Print Server as the primary print server.

IP Addresses

The wired and wireless print servers will have two different IP addresses. The printer's control panel will display the address of the active device. For more information, see *View or Change Control Panel Parameters for the Wireless Print Server* on page 21.

View Printer Web Pages

When both a wired and wireless print server are installed on a printer, you can view the printer's web pages through the active device's IP address. For more information, see *Home Page* on page 56.

2

Configuration

Use the instructions in this chapter to configure the ZebraNet Wireless Print Server for operation.

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Overview

Important • The ZebraNet Wireless Print Server PCMCIA board must be installed on your printer before you can configure the printer to communicate using a wireless card. If this board is not installed and active, the wireless portion of the network configuration label will not print (see *Print a Network Configuration Label* on page 20).

For printers other than the S4M, check the bottom right corner of the control panel LCD for the firmware version (all firmware versions used for the S4M support the Wireless Print Server option). For printers other than the S4M, you need firmware version V60.13.X or higher to operate the Wireless Print Server. If the firmware version number on your printer is less than this, download the latest firmware from http://www.zebra.com/firmware or use the version provided on the Connectivity CD that came with the kit (the version on the CD may not be the latest available).

You may configure your printer for wireless operation in the following ways:

- **Through the SetWLAN utility**, which writes a ZPL script for you (see *Configure Using the SetWLAN Utility* on page 9). On the last screen of the utility, you may choose to send the command directly to your printer through the serial port, or you may choose to save the ZPL script to a file. The saved ZPL file has several purposes:
  - The file can be sent to the printer through the parallel port, a USB port, or a wired print server.
  - The file can be sent to the printer after the network settings have been restored to factory defaults.
  - The file can be sent to multiple printers that will use the same network settings.
- **Through ZPL script** that you write yourself (see *ZPL Commands for the Wireless Print Server* on page 33)

Configure Using the SetWLAN Utility

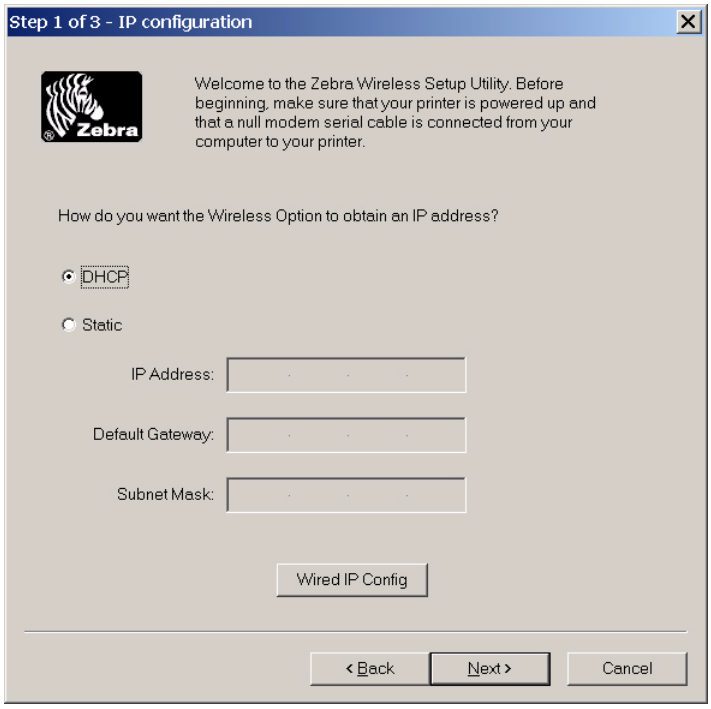
The SetWLAN utility resides on the User CD for your printer and is available through http://www.zebra.com. This software allows you to configure your printer easily for wireless operation by writing the appropriate ZPL script for you. Use this utility when you are first installing the Wireless Print Server or when you set the network options back to factory defaults.

Note • The SetWLAN utility requires Microsoft® Windows® 98 or higher.

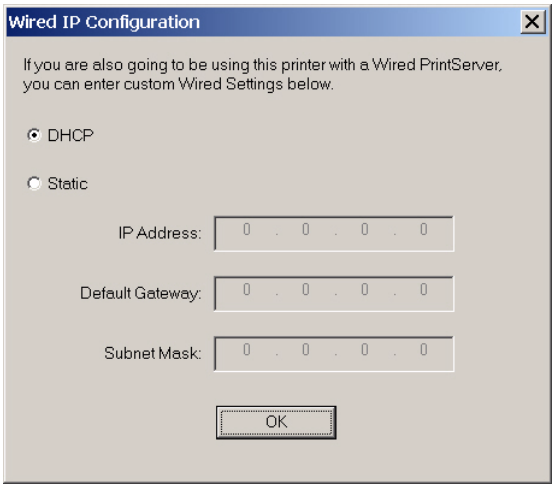
To configure the Wireless Print Server using the SetWLAN utility, complete these steps:

1. From the User CD or Connectivity CD, run the program `SetWLAN.exe`.
   The IP Configuration window displays (Figure 3).

Figure 3 • IP Configuration Window



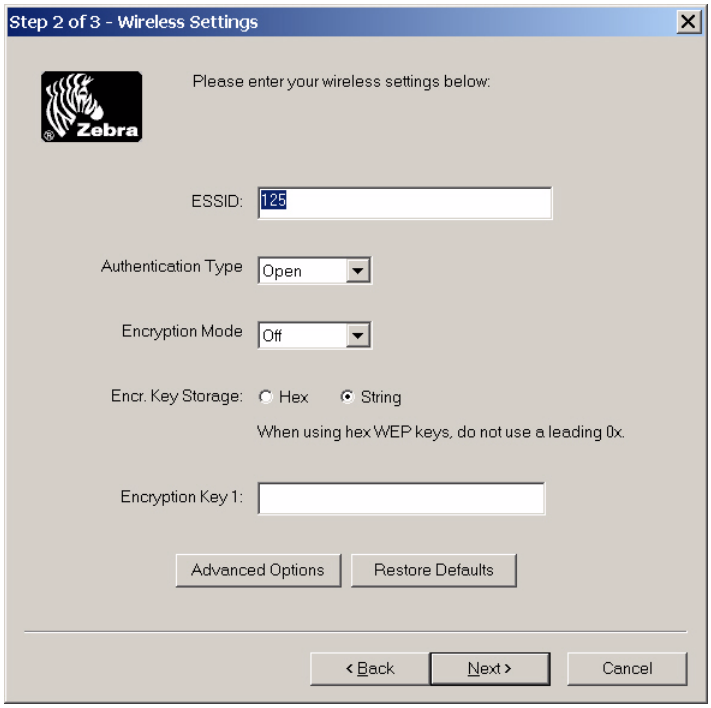
2. Do you wish to enter settings for an optional wired print server? (A wired print server is not required for configuring or running the Wireless Print Server.)

If...	Then...
No	Continue with step 3.
Yes	**a.** Click **Wired IP Config**. The Wired IP Configuration window displays (Figure 4). **Figure 4 • Wired IP Configuration Window**  **b.** Select the desired method for obtaining an IP address for the wired print server. If you select **Static**, enter the appropriate IP information. **c.** Click **OK**.

3. Will you be using DHCP (dynamic) or static IP settings for the Wireless Print Server?

If you will be using...	Complete the following steps...
DHCP (recommended)	**a.** Click **Next**. The Wireless Settings window displays (Figure 5).
Static	Complete the following steps: **a.** Select **Static**. The IP settings fields are activated. **b.** Enter the IP Address, Default Gateway, and Subnet Mask that you want the printer to use. **c.** Click **Next**. The Wireless Settings window displays (Figure 5).

Figure 5 • Wireless Settings Window



4. Enter the ESSID for your network.

5. If necessary, select a different Authentication Type.

6. If you will be using WEP encryption, enter the encryption mode, the storage method for the encryption keys, and the current encryption key.

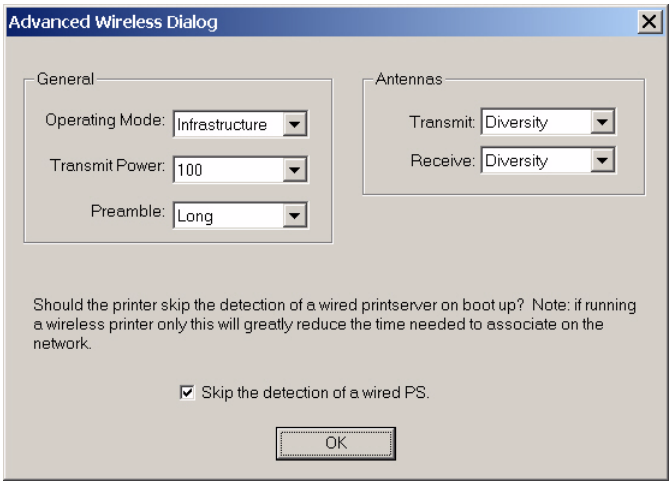
Note •

- The settings for step 4 through step 6 must match what is set on your access point.
- If you are using hex WEP keys, do not add a leading 0x to the encryption keys.
- If you are using multiple WEP encryption keys, enter encryption keys 2, 3, and 4 and specify the current key by using the printer's web pages. For instructions on accessing and using the web pages, see *Printer Web Pages* on page 26.

7. To modify other wireless parameters, complete these steps:

   a. On the Wireless Settings Window, click **Advanced Options**.
   The Advanced Wireless window displays (Figure 6).

Figure 6 • Advanced Wireless Window

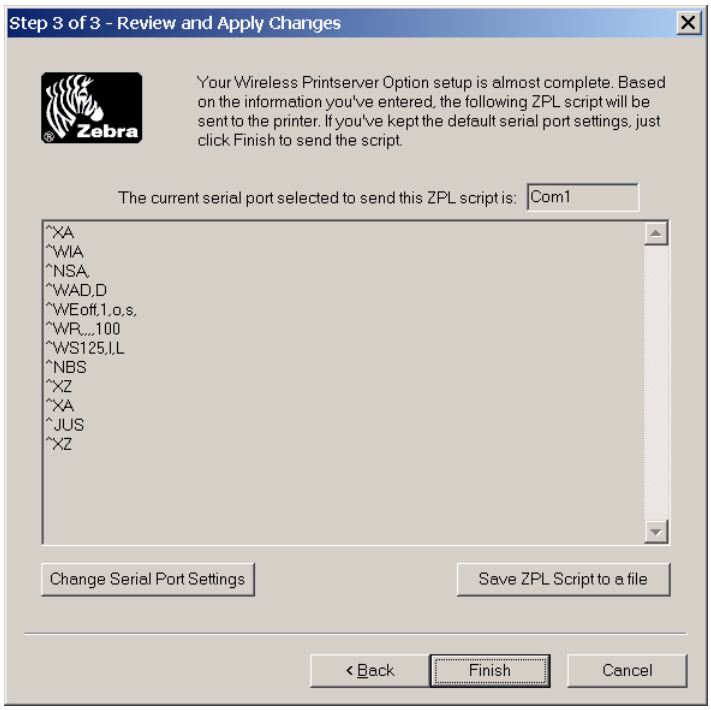


b. Modify the settings as necessary to match your network's settings.

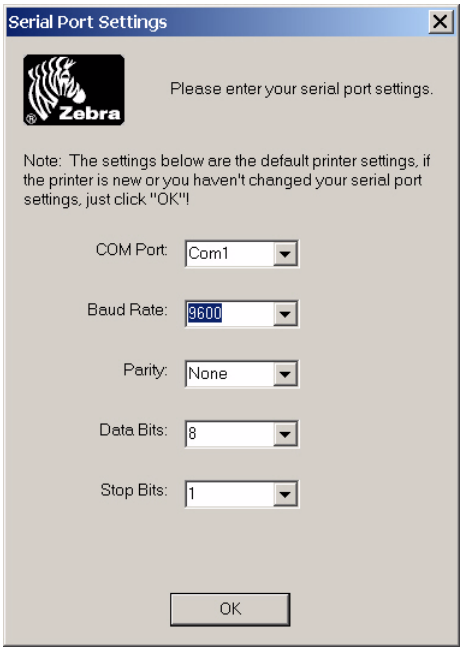
c. Click **OK**.
The program returns to the Wireless Settings Window.

8. Click **Next**.
The Review and Apply Changes Window displays (Figure 7).

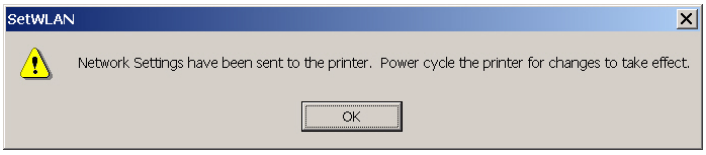
Figure 7 • Review and Apply Changes Window



9. Have any of the serial port settings been modified on your printer?

If...	Then...
No	Continue with step 10.
Yes	You must match those serial port settings in the configuration program for the computer and the printer to be able to communicate. To do this, complete these steps: **a.** Click **Change Serial Port Settings**. The Serial Port Settings window displays (see Figure 8). **Figure 8 • Serial Port Settings Window**  **b.** To review the settings on your printer, enter Setup mode through the printer's control panel, then scroll until you reach **BAUD**, **DATA BITS**, and **PARITY**. **c.** If any of the values are different, change the settings on the Serial Port Settings window to match the settings stored in the printer. **d.** Click **OK**. The program returns to the Review and Apply Changes Window (see Figure 7 on page 12).

10. To complete the configuration procedure, select one of the following:

To...	Then...
Send the ZPL script through the serial port	**a.** Connect your printer's serial port to the computer using a null modem serial cable. **b.** Turn On (**I**) the printer. **c.** On the Review and Apply Changes Window, click **Finish**. The printer sends the ZPL script to the printer through the serial port (Figure 9). **Figure 9 • Configuration Complete Message**  **d.** Click **OK**.
Save the ZPL code to a file	**a.** On the Review and Apply Changes Window, click **Save ZPL Script to a file**. The computer prompts you for a name and destination for the file. **b.** Enter the file name and destination. **c.** Click **Save**. **d.** Turn On (**I**) the printer. **e.** Send the ZPL file to the printer through the connection of your choice.

11. After the ZPL script has been sent to and received by the printer, turn Off (**O**) the printer.

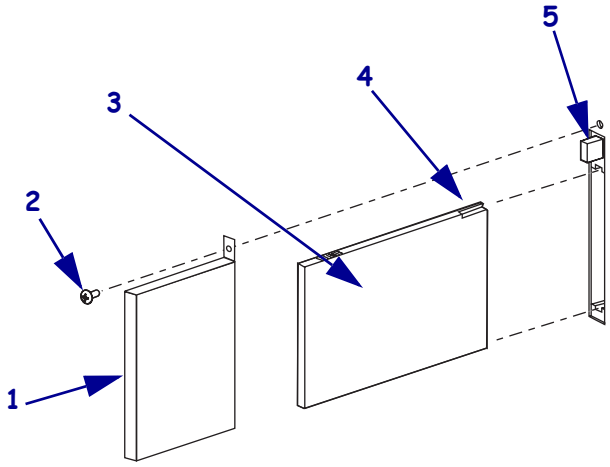
12. See Figure 10. Are the PCMCIA wireless card and the plastic RF card cover installed in the back of the printer?

Note • The S4M does not use the plastic RF cover.

If...	Then...
The wireless card and RF card cover are both installed	Continue with step 13.
The wireless card is installed but the RF card cover is not*	**a.** See Figure 10. Place the RF card cover over the wireless card.* **b.** Secure the RF card cover with a small screw.*
The wireless card and RF card cover are not installed*	**a.** Remove and discard the metal cover that was shipped in place over the PCMCIA slot on the back of the printer. **b.** Insert the wireless card into the PCMCIA slot on the back of the printer until the card-eject button pops out (Figure 10). **Note •** The notch on the wireless card must be positioned on top and on the leading edge as it is inserted into the back cover slot. **c.** Place the RF card cover over the wireless card.* **d.** Secure the RF card cover with a small screw.*

* The S4M does not use the plastic RF cover.

Figure 10 • Inserting the Wireless Card



1	RF card cover (not used on the S4M)
2	Screw
3	Wireless card
4	Notch
5	Card-eject button

13. Turn On (**I**) the printer.

The printer restarts and uses the wireless card to communicate with your WLAN. Allow several minutes for the printer to connect to the network. For more information about wireless status, refer to *View Wireless Status through the Control Panel* on page 18 or *Troubleshooting* on page 51.

3

Wireless Status and Settings

This chapter presents options for viewing or modifying the wireless status, signal strength, or settings.

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Overview

After you configure the Wireless Print Server, you may view the wireless status and signal strength (see *View Wireless Status through the Control Panel* on page 18). You also may access or modify wireless settings through the following:

- A network configuration label (see *Print a Network Configuration Label* on page 20)
- The control panel parameters (see *View or Change Control Panel Parameters for the Wireless Print Server* on page 21)
- The WebView web pages for your printer (see *Printer Web Pages* on page 26)
- ZPL commands (see *ZPL Commands for the Wireless Print Server* on page 33)

View Wireless Status through the Control Panel

After the Wireless Print Server is configured, use the control panel to view the wireless status.

Note • Refer to the user guide for your printer for specific instructions on how to use the control panel.

Link Status Indicator

Note • The S4M does not use the link status indicator.

The wireless link status indicator appears at the bottom left of the LCD on the control panel, providing a real-time display of the printer's network status (Table 2).

Table 2 • Link Status Indicators

Status Indicator	Meaning
cycling through characters . o 0	The wireless card is associated with the WLAN.
underscore _	1. The wireless card is inserted but not associated with the network. 2. No wireless card is inserted.
blank	1. The printer is checking for a wired print server. 2. The printer is running a wired print server. 3. The Wireless Print Server board is not installed or not installed correctly.

Wireless Signal Indicators

The following control panel indicators and messages are associated with the wireless signal:

- `SIGNAL STRENGTH` and `SIGNAL QUALITY`—When these indicators display percentages, the wireless card is communicating with the network. The higher the number is, the better the connection is between the printer and the network. If your printer indicates a signal strength but you cannot communicate with the printer from your computer, move the printer to a different location to try to get a higher signal strength or signal quality. This situation could also indicate that the printer is associated with, but not authenticated with, your access point.
- `NOISE LEVEL`—This number indicates any electrical interference with the wireless signal. If your printer cannot communicate with the network and the noise level is high, move the printer to a location that is free of interference.
- `NO CARD INSERTED`—The wireless card is not inserted at all or is not fully seated.
- `NOT ASSOCIATED`—The wireless card is present but cannot log on to the network.

Note • Depending on which printer/print engine you are using, press the following key to access the wireless signal indicators:

- Plus (+) for the Z4Mplus, Z6Mplus, and 105SL
- The up arrow for the S4M
- The right oval for the *Xi*IIIPlus, the R*Xi*, the *PAX*4, and the R*PAX*4

To view the Signal Strength, Noise Level, and Signal Quality of the wireless signal, complete these steps:

1. When the control panel displays `PRINTER READY`, press **Plus** (+)/the up arrow/the right oval to move to `SIGNAL STRENGTH`.
2. Press Plus (+)/the up arrow/the right oval again to move to `NOISE LEVEL`.
3. Press Plus (+)/the up arrow/the right oval a third time to move to `SIGNAL QUALITY`.
4. Press Plus (+)/the up arrow/the right oval a fourth time to return to the `PRINTER READY` message.

Poor Signal Setting

Through the Wireless Setup Page (see Figure 14 on page 29), you can enter a value for **POOR SIGNAL**. If the wireless signal strength drops below this value, the printer's control panel will alternate between the idle display (`PRINTER IDLE`) and the following message:

```
RADIO WARNING
POOR SIGNAL
```

Note • The poor signal setting affects when you see the `POOR SIGNAL` warning, but it does not affect whether your printer will be able to associate with your network at a low signal strength.

Print a Network Configuration Label

A network configuration label lists the settings for the print servers installed in your printer. The active print server is indicated by an asterisk. If a wired print server is not installed, the IP information on the wired portion appears as all zeroes (`000.000.000.000`). If the Wireless Print Server is not installed, the wireless portion of the label does not print.

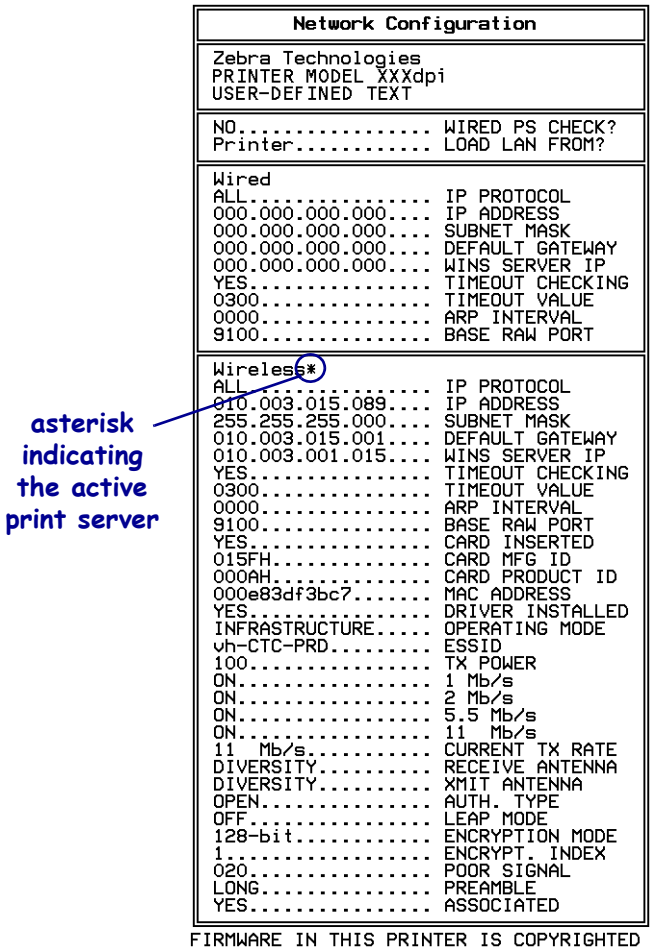
Note • Refer to the user guide for your printer for specific instructions on how to use the control panel.

To print a network configuration label, complete these steps:

1. From the control panel, enter Setup mode.
2. Scroll through the parameters until you reach **LIST NETWORK** (level 3 parameter **PRINT OUT NETWORK** on the S4M).
3. Confirm printing.

   A network configuration label prints (Figure 11).

Figure 11 • Network Configuration Label



View or Change Control Panel Parameters for the Wireless Print Server

The control panel parameters are somewhat different for the S4M printer as opposed to other Zebra printers. For the S4M printer, see *Parameters for the S4M Printer* on page 24.

Parameters for Zebra Printers Other Than the S4M

Table 3 shows the wireless parameters that may be viewed or modified through the printer's control panel. Some of the parameters can be password-protected by a wireless password. By default, the Wireless Print Server runs in an "unprotected" mode (password set to **0000**), which means that you do not need to enter a wireless password through the control panel to view or modify wireless settings. To set a wireless password (not the same as the general printer password), use the ^WP ZPL command.

Note • Refer to the user guide for your printer for specific instructions on how to use the control panel controls.

Table 3 • Control Panel Parameters for the ZebraNet Wireless Print Server (printers other than the S4M)

Parameter	Function
LIST NETWORK	This selection is used to print a network configuration label (see Figure 11 on page 20).
LOAD LAN FROM?[2]	This parameter, which serves the same function as the ^NP ZPL command, specifies whether to use the printer's or the print server's IP settings at bootup. *Accepted Values:* PRINTER, PRINTSERVER *Default Value:* PRINTER
WIRED PS CHECK?[2]	**Check for a Wired Print Server at Bootup** This parameter, which serves the same function as the ^NB ZPL command, tells the printer whether to search for a wired print server at bootup. *Accepted Values:* YES, NO *Default Value:* NO

1 These parameters appear after the system recognizes the existence of a ZebraNet print server (wired or wireless). After the print server is recognized, all zeroes (000.000.000.000) will display until the printer obtains an IP address or defaults to address 192.168.254.254.

2 Appears only when the ZebraNet Wireless Print Server is installed.

3 If a wireless password is set, you must enter the wireless password (not the printer password) to access this parameter.

4 This parameter appears 1) when no wireless card is inserted or 2) when the wireless card is associated to the WLAN and the card supports LEAP.

Table 3 • Control Panel Parameters for the ZebraNet Wireless Print Server (printers other than the S4M) (Continued)

Parameter	Function
IP PROTOCOL[1]	**Obtain an IP Address** This parameter allows either the user (permanent) or the server (dynamic) to select the IP address. If a dynamic option is chosen, this selection determines the method(s) by which the print server (wired or wireless) receives the IP address from the server. *Accepted Values:* ALL, GLEANING ONLY, RARP, BOOTP, DHCP, DHCP AND BOOTP, PERMANENT *Default Value:* All **Note •** Use of GLEANING ONLY is not recommended when the Wireless Print Server is installed.
IP ADDRESS[1]	**View or Change the Printer's IP Address** This parameter can be modified only when PERMANENT is selected for IP PROTOCOL. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0
SUBNET MASK[1]	**View or Change the Subnet** This parameter can be modified only when PERMANENT is selected for IP PROTOCOL. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0
DEFAULT GATEWAY[1]	**View or Change the Gateway** This parameter can be modified only when PERMANENT is selected for IP PROTOCOL. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0
MAC ADDRESS [2,3]	**View MAC Address** This parameter shows the MAC address of the current wireless card. *Default Value:* 000000000000
ESSID [2,3]	**Set ESSID** *Default Value:* 125
AUTH. TYPE [2,3]	**Set Authentication Type** *Accepted Values:* OPEN, SHARED *Default Value:* OPEN

1 These parameters appear after the system recognizes the existence of a ZebraNet print server (wired or wireless). After the print server is recognized, all zeroes (000.000.000.000) will display until the printer obtains an IP address or defaults to address 192.168.254.254.

2 Appears only when the ZebraNet Wireless Print Server is installed.

3 If a wireless password is set, you must enter the wireless password (not the printer password) to access this parameter.

4 This parameter appears 1) when no wireless card is inserted or 2) when the wireless card is associated to the WLAN and the card supports LEAP.

Table 3 • Control Panel Parameters for the ZebraNet Wireless Print Server (printers other than the S4M) (Continued)

Parameter	Function
LEAP MODE[3,4]	**Enable LEAP Mode** An encryption method that is available with some wireless cards. Set the LEAP user name and password through the printer web pages (see *WebView Web Pages* on page 55) or by ZPL (see *^WL* on page 44). By default, LEAP user will be set to **user**, and LEAP password will be set to **password**. *Accepted Values:* ON, OFF *Default Value:* OFF
ENCRYPTION MODE [2,3]	**Set Encryption Mode** *Accepted Values:* OFF, 40-BIT, 128-BIT *Default Value:* OFF
ENCRYPT. INDEX [2,3]	**Select an Encryption Index** *Accepted Values:* 1, 2, 3, 4 *Default Value:* 1
RESET NETWORK[1,3]	**Reset the Wired or Wireless Network** Reinitializes the wired or wireless network. Also causes any wireless card in the printer to reassociate to the wireless network. (Same function as ZPL command *~WR* on page 48.)

1 These parameters appear after the system recognizes the existence of a ZebraNet print server (wired or wireless). After the print server is recognized, all zeroes (000.000.000.000) will display until the printer obtains an IP address or defaults to address 192.168.254.254.

2 Appears only when the ZebraNet Wireless Print Server is installed.

3 If a wireless password is set, you must enter the wireless password (not the printer password) to access this parameter.

4 This parameter appears 1) when no wireless card is inserted or 2) when the wireless card is associated to the WLAN and the card supports LEAP.

Parameters for the S4M Printer

Table 4 shows the wireless parameters that may be viewed or modified through the printer's control panel if you have the Wireless Print Server installed on an S4M and are operating in ZPL or EPL mode. These parameters are considered part of the Level 3 password. To view network parameters that are not available as selections through the control panel, print a network configuration label.

Note • Refer to the *S4M User Guide* for specific instructions on how to use the control panel.

Table 4 • Control Panel Parameters for the ZebraNet Wireless Print Server (S4M only)

Parameter	Explanation
PRINT OUT NETWORK	This selection is used to print a network configuration label (see Figure 11 on page 20).
OBTAIN IP ADDRESS	**Obtain an IP Address** Selects the method by which an IP address will be assigned to the printer. If you choose AUTO SELECT, you may specify an IP protocol (see *Change the IP Protocol* on page 25). *Selections:* AUTO SELECT (dynamic), PERMANENT (user-specified) *Default Value:* AUTO SELECT **To modify this parameter:** • Press the up or down arrow to scroll through the selections.
CHANGE IP ADDRESS	**View or Change the Printer's IP Address** This parameter can be modified only when PERMANENT is selected for OBTAIN IP ADDRESS. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0 **Note •** Leading zeroes are not shown in the address. If an IP address contains more digits than can be displayed at one time, use the left or right arrows to scroll through the digits. **To modify this parameter:** • To increase the value, press the up arrow. • To decrease the value, press the down arrow.

Table 4 • Control Panel Parameters for the ZebraNet Wireless Print Server (S4M only) (Continued)

Parameter	Explanation
CHANGE SUBNET	**View or Change the Subnet** This parameter can be modified only when **PERMANENT** is selected for **OBTAIN IP ADDRESS**. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0 **Note** • Leading zeroes are not shown in the address. If an IP address contains more digits than can be displayed at one time, use the left or right arrows to scroll through the digits. **To modify this parameter:** • To increase the value, press the up arrow. • To decrease the value, press the down arrow.
CHANGE GATEWAY	**View or Change the Gateway** This parameter can be modified only when PERMANENT is selected for **OBTAIN IP ADDRESS**. *Selections:* 0 to 255 for each field *Default Value:* 0.0.0.0 **Note** • Leading zeroes are not shown in the address. If an IP address contains more digits than can be displayed at one time, use the left or right arrows to scroll through the digits. **To modify this parameter:** • To increase the value, press the up arrow. • To decrease the value, press the down arrow.
CHANGE IP PROTOCOL	**Change the IP Protocol** Determines the method(s) by which the print server (wired or wireless) receives the IP address from the server. This parameter can be modified only when **AUTO SELECT** is selected for **OBTAIN IP ADDRESS**. *Selections:* ALL, GLEANING ONLY, RARP, BOOTP, DHCP, DHCP AND BOOT *Default Value:* ALL **To modify this parameter:** • Press the up or down arrow to scroll through the selections.

Printer Web Pages

You can use the printer's ZebraLink WebView web pages to view and modify many of the same parameters that appear on the printer's control panel. Through the printer's home page, you can also enter additional WEP encryption keys and change parameters that are not accessible in other ways.

For additional WebView options and functionality, see *WebView Web Pages* on page 55.

Note • Refer to the user guide for your printer for specific instructions on how to use the control panel.

To view or modify settings through the printer's web pages, complete these steps:

1. From the control panel, enter Setup mode.
2. Scroll through the parameters until you reach `IP ADDRESS` (level 3 parameter `CHANGE IP ADDRESS` on the S4M).
3. Note the IP Address (do not include any leading zeroes):

   _____
4. Go to Internet Explorer.
5. In the address box, type the IP address for the printer (do not include www or any leading zeroes).
6. Press Enter or click **Go**.

   The printer's home page displays.
7. Click **View and Modify Printer Settings**.

   The printer prompts you for the printer password.

   Note • The printer will prompt for the printer password only the first time that certain screens are accessed until 1) the web authentication timeout value is reached (default value is 5 minutes) or 2) the printer is reset. At that time, the printer will prompt for the password again. For more information about setting the web authentication timeout value, see *^NW* on page 39.
8. Enter the password for your printer. The default password is **1234**.
9. Click **Submit Changes**.

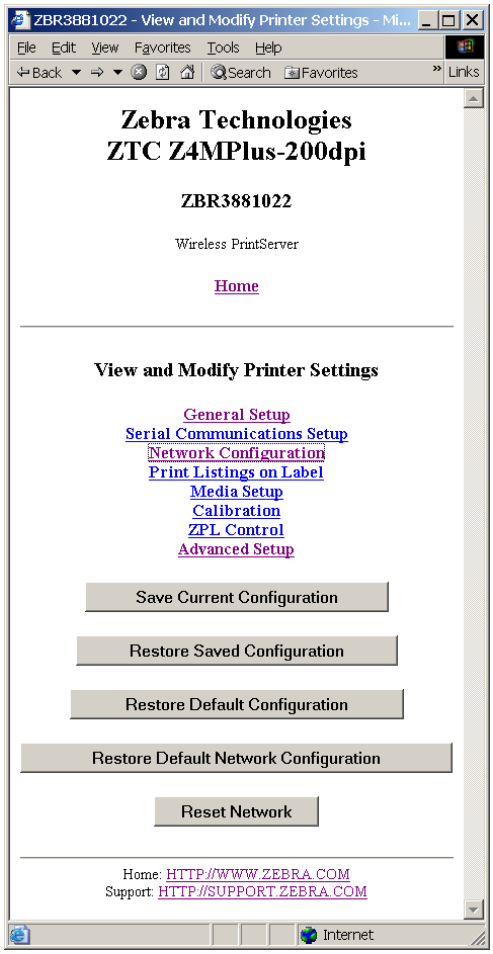
   The following statement appears:

   Access Granted. This IP Address now has admin access to the restricted printer pages. Please Click here to proceed

10. Click on the statement.

The View and Modify Printer Settings page for your printer displays (Figure 12).

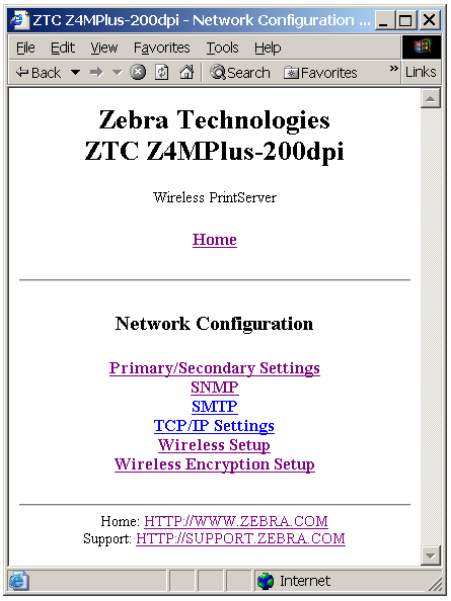
Figure 12 • View and Modify Printer Settings Page



11. Click **Network Configuration**.

    The Network Configuration page for your printer displays (Figure 13).

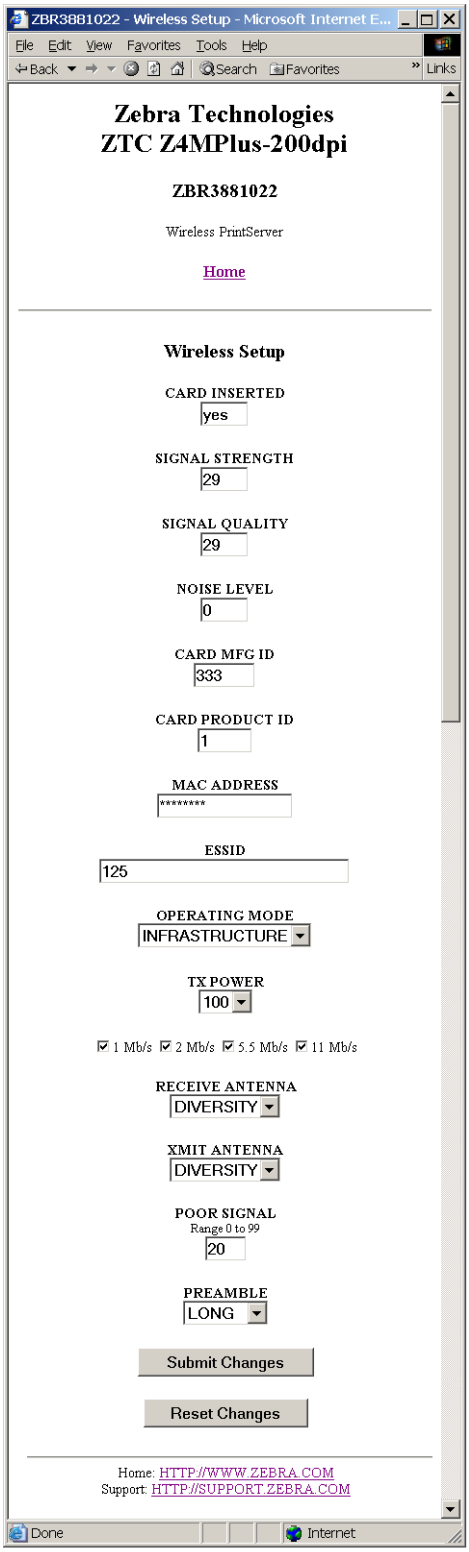
Figure 13 • Network Configuration Page



12. Click **Wireless Setup**.

The Wireless Setup Page for your printer displays (Figure 14).

Figure 14 • Wireless Setup Page



13. If desired, change the following settings:
    a. Enter the ESSID.
    b. Select the Operating Mode and Preamble from the drop-down lists.
    c. Change the Poor Signal setting.

14. Click **Submit Changes**.

    The printer displays the following:

    Wireless Setup
    Changes were successfully saved (temporarily).
    NOTE: Save permanent and reset network for changes to take effect.

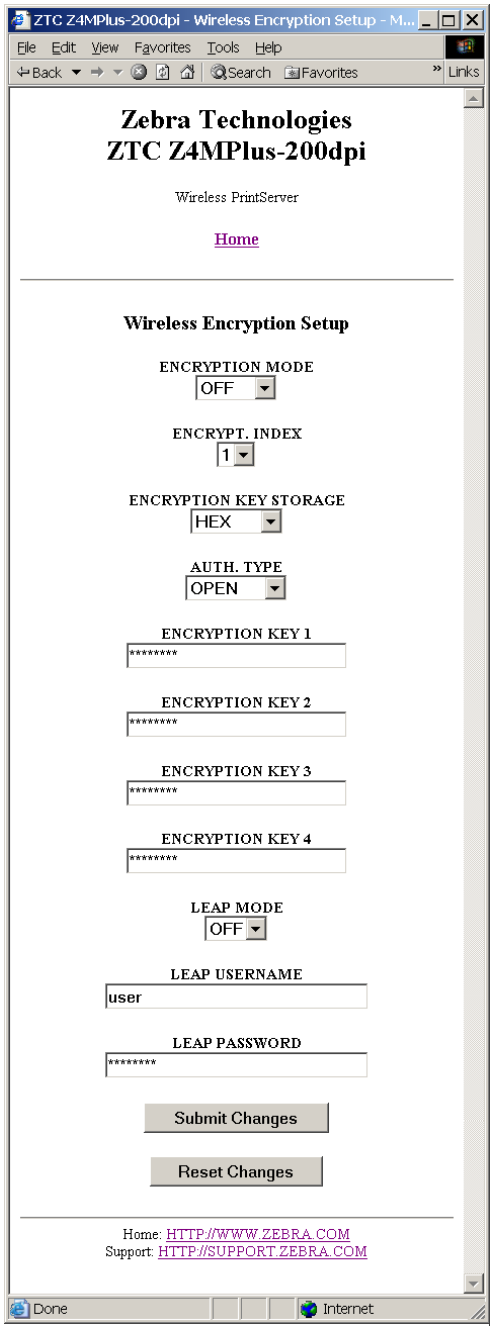
15. Click **View and Modify Printer Settings**.

    The View and Modify Printer Settings page for your printer returns (see Figure 12 on page 27).

16. Does your network use WEP encryption?

If...	Then...
No	Continue with step 17.
Yes	a. Click **Network Configuration**. The Network Configuration page for your printer displays. b. Click **Wireless Encryption Setup**. The Wireless Encryption Setup page for your printer displays (see Figure 15 on page 31). c. Enter the encryption settings for your network. If using hex storage, do not precede the encryption keys with 0x. d. Click **Submit Changes**. The printer displays the following: **Wireless Encryption Setup** **Changes were successfully saved (temporarily).** **NOTE: Save permanent and reset network for changes to take effect.** e. Click **View and Modify Printer Settings**. The View and Modify Printer Settings page for your printer returns (see Figure 12 on page 27).

Figure 15 • Wireless Encryption Setup Page



Note • LEAP parameters appear on this screen only when the wireless card supports LEAP.

17. On the View and Modify Printer Settings page, click **Save Current Configuration**. The printer displays **Current configuration saved**.

Return Network Parameters to Defaults

You may need to return the network parameters to the factory defaults under the following circumstances:

- If you download a different version of firmware to your printer
- If you need to reset the encryption keys (for instances where a key was entered incorrectly or was forgotten)

After you return the parameters to the defaults, you will need to reconfigure your printer to use the Wireless Print Server (see *Configuration* on page 7). If you saved the ZPL script generated by the SetWLAN utility, simply send this file to the printer and then power cycle the printer. If you were using a wireless password, you need to set it again (see *^WP* on page 46).

You can set the network parameters back to the factory defaults in two ways:

- (All printers) The **Restore Default Network Configuration** button on the printer's View and Modify Printer Settings Page (see Figure 12 on page 27).
- (For printers other than the S4M) The DEFAULT NET option, which appears as an option when you exit Setup mode. Refer to the user guide for your printer for specific instructions on how to use the control panel.

Note • The LOAD DEFAULTS option and the **Restore Default Configuration** button on the printer's View and Modify Printer Settings Page reset all printer parameters other than network settings back to factory defaults. The network settings will not change when these options are selected.

4

ZPL Commands for the Wireless Print Server

This chapter contains new or modified ZPL commands for the Wireless Print Server.

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^NB

Search for Wired Print Server during Network Boot

Description This command tells the printer whether to search for a wired print server at bootup. Table 5 shows the results of this check.

Note • On the S4M, only one print server can be installed at a time, so this check does not occur.

Table 5 • Results of Check for Wired Print Server

Wired Print Server Connected?	Check for Wired Print Server?	Results
Yes	Skip	The printer skips the check for a wired print server. The wired print server is not acknowledged, and the Wireless Print Server is used as the primary print server.
Yes	Check	The printer checks for a wired print server. If the wired print server is detected, it is used as the primary print server. If it is not detected, the Wireless Print Server is used as the primary print server.
No	Skip	The printer uses the Wireless Print Server as the primary print server without taking the time to check for a wired print server.
No	Check	During bootup, the printer tries for 70 seconds to detect a wired print server. After finding that one is not connected, the printer uses the Wireless Print Server as the primary print server.

Format ^NBa

The following table identifies the parameters for this format.

Parameters	Details
a = Check for Wired Print Server at Boot Time	*Accepted Values:* C (CHECK), S (SKIP CHECK) *Default Value:* S

^NN

Set SNMP

Description Use this command to set the Simple Network Management Protocol (SNMP) parameters.

Format `^NNa,b,c,d,e,f`

The following table identifies the parameters for this format.

Parameters	Details
a = System Name	Same as printer name. *Accepted Values:* Up to 17 alphanumeric characters
b = System Contact	Any contact information as desired (such as a name or phrase) *Accepted Values:* Up to 50 alphanumeric characters
c = System Location	The printer's model information. *Accepted Values:* Up to 50 alphanumeric characters
d = Get Community Name	*Accepted Values:* Up to 20 alphanumeric characters *Default Value:* public
e = Set Community Name	*Accepted Values:* Up to 20 alphanumeric characters *Default Value:* public
f = Trap Community Name	*Accepted Values:* Up to 20 alphanumeric characters *Default Value:* public

^NP

Set Primary/Secondary Device

Description This command specifies whether to use the printer's or the print server's LAN/WLAN settings at boot time. The default is to use the printer's settings.

When the printer is set as the primary device, you can set it up using ZPL commands or the SetWLAN utility, and any wired print server inserted into the printer will get these settings. The drawbacks to using the printer as primary are that any wired print server inserted into the printer will lose its original settings if the printer is set to check for the wired print server (see *^NB* on page 34) and that using GLEANING ONLY for IP PROTOCOL will no longer work.

Format ^NPa

The following table identifies the parameters for this format.

Parameters	Details
a = Device to Use as Primary	*Accepted Values:* P (PRINTER), M (MPS/PRINTSERVER)

^NS

Change Wired Networking Settings

Description Use this command to change the wired print server network settings.

Format `^NSa,b,c,d,e,f,g,h,i`

The following table identifies the parameters for this format.

Parameters	Details
a = IP Resolution	*Accepted Values:* A (ALL) B (BOOTP) C (DHCP AND BOOTP) D (DHCP) G (GLEANING ONLY) R (RARP) P (PERMANENT) **Note •** Use of GLEANING ONLY is not recommended when the Wireless Print Server is installed.
b = IP Address	*Accepted Values:* Any properly formatted IP address in the xxx.xxx.xxx.xxx format.
c = Subnet Mask	*Accepted Values:* Any properly formatted subnet mask in the xxx.xxx.xxx.xxx format.
d = Default Gateway	*Accepted Values:* Any properly formatted gateway in the xxx.xxx.xxx.xxx format.
e = WINS Server Address	*Accepted Values:* Any properly formatted WINS server in the xxx.xxx.xxx.xxx format.
f = Connection Timeout Checking	*Accepted Values:* Y (YES), N (NO)
g = Timeout Value	Time, in seconds, before the connection times out. *Accepted Values:* 0 through 9999
h = ARP Broadcast Interval	Time, in minutes, that the broadcast is sent to update the device's ARP cache.
i = Base Raw Port Number	The port number that the printer should use for its RAW data. *Accepted Values:* 0 through 99999 *Default Value:* 9100

Example •

```
^XA
^NSa,192.168.0.1,255.255.255.0,192.168.0.2
```

^NT

Set SMTP

Description Use this command to set the Simple Mail Transfer Protocol (SMTP) parameters. This allows you to set the e-mail settings for alerts.

Format `^NTa,b`

The following table identifies the parameters for this format.

Parameters	Details
a = SMTP Server Address	*Accepted Values:* Any properly formatted server address in the xxx.xxx.xxx.xxx format
b = Print Server Domain	*Accepted Values:* Any properly formatted print server domain in the xxx.xxx.xxx.xxx format

^NW

Set Web Authentication Timeout Value

Description Use this command to set the timeout value for the printer home page. The printer will prompt for the printer password only the first time that certain screens are accessed until 1) the web authentication timeout value is reached (default value is 5 minutes) or 2) the printer is reset. At that time, the printer will prompt for the password again.

Format ^NWa

The following table identifies the parameters for this format.

Parameters	Details
a = Timeout Value	The timeout value in minutes for an IP address to be authenticated to the printer web pages. *Accepted Values:* 0 (no secure pages can be accessed without entering the printer password) to 255 minutes *Default Value:* 5

^WA

Set Antenna Parameters

Description This command sets the values for the receive and transmit antenna.

Format ^WAa,b

The following table identifies the parameters for this format.

Parameters	Details
a = receive antenna	*Accepted Values:* D (Diversity), L (Left), R (Right) *Default Value:* D
b = transmit antenna	*Accepted Values:* D (Diversity), L (Left), R (Right) *Default Value:* D

^WE

Set Wireless Encryption Values

Description This command sets the wireless encryption (WEP) values.

Format `^WEa,b,c,d,e,f,g,h`

Important • Use care to include the exact number of commas required in this command when setting encryption keys (parameters e through h). A missing or extra comma in this command will cause the keys to be stored in the wrong slots and can disable the wireless system.

The following table identifies the parameters for this format.

Parameters	Details
a = Encryption Mode	*Accepted Values:* OFF, 40 (40-bit encryption), 128 (128-bit encryption) *Default Value:* OFF
b = Encryption Index	Tells the printer which encryption key to use. *Accepted Values:* 1 (Key 1), 2 (Key 2), 3 (Key 3), 4 (Key 4) *Default Value:* 1
c = Authentication Type	*Accepted Values:* O (Open System), S (Shared Key) *Default Value:* O **Note •** If you enabled Shared Key authentication with Encryption Mode set to OFF, this value resets to Open.
d = Encryption Key Storage	*Accepted Values:* H (Hex key storage), S (string key storage) *Default Value:* S
e, f, g, h = Encryption Keys 1 through 4	*Accepted Values:* The actual value for the encryption key The encryption mode affects what can be entered for the encryption keys: • For 40-bit, encryption keys can be set to any 5 hex pairs or any 10 alphanumeric characters. • For 128-bit, encryption keys can be set to any 13 hex pairs or any 26 alphanumeric characters. **Note •** When using hex storage, do not add a leading 0x on the WEP key.

Example 1 •This example sets encryption to 40-bit, activates encryption key 1, and sets encryption key 1 to the string `12345`.

```
^WE40,,,,12345
```

In this example, the Encryption Index, Authentication Type, and Encryption Key Storage parameters are left blank with commas as placeholders for the fields. The printer uses the default values for these parameters.

Example 2 •This example sets encryption to 128-bit, activates encryption key 2, and sets encryption keys 1 and 2 to hex values.

```
^WE128,2,,H,12345678901234567890123456,98765432109876543
210987654
```

The value for encryption key 1 is stored and can be activated in the future by the following command:

```
^WE128,1
```

Example 3 •This example sets encryption to 128-bit, activates encryption key 4, and sets encryption key 4 to a hex value.

```
^WE128,4,,H,,,,98765432109876543210987654
```

Values are not required for encryption keys 1 through 3 when setting encryption key 4. In this example, commas are used as placeholders for the fields for encryption keys 1 through 3. Any previously stored values for these encryption keys do not change.

Important • Make sure that you include the exact number of commas required to get to the slot for encryption key 4 (parameter h).

^WI

Change Wireless Network Settings

Description Use this command to change the wireless network settings.

Format `^WIa,b,c,d,e,f,g,h,i`

The following table identifies the parameters for this format.

Parameters	Details
a = IP Resolution	*Accepted Values:* A (ALL) B (BOOTP) C (DHCP AND BOOTP) D (DHCP) G (GLEANING ONLY) R (RARP) P (PERMANENT) **Note •** Use of GLEANING ONLY is not recommended when the Wireless Print Server is installed.
b = IP Address	*Accepted Values:* Any properly formatted IP address in the xxx.xxx.xxx.xxx format.
c = Subnet Mask	*Accepted Values:* Any properly formatted subnet mask in the xxx.xxx.xxx.xxx format.
d = Default Gateway	*Accepted Values:* Any properly formatted gateway in the xxx.xxx.xxx.xxx format.
e = WINS Server Address	*Accepted Values:* Any properly formatted WINS server in the xxx.xxx.xxx.xxx format.
f = Connection Timeout Checking	*Accepted Values:* Y (YES), N (NO)
g = Timeout Value	Time, in seconds, before the connection times out. *Accepted Values:* 0 through 9999
h = ARP Broadcast Interval	Time, in minutes, that the broadcast is sent to update devices ARP cache.
i = Base Raw Port Number	The port number that the printer should use for its RAW data. *Accepted Values:* 0 through 99999 *Default Value:* 9100

^WL

Set LEAP Parameters

Description Use this command to set LEAP mode, user name, and password.

Note • LEAP is only available with some wireless cards.

Format ^WLa,b,c

The following table identifies the parameters for this format.

Parameters	Details
a = Mode	*Accepted Values:* OFF, ON
b = User Name	*Accepted Values:* Any 4 to 40 alphanumeric characters
c = Password	*Accepted Values:* Any 4 to 40 alphanumeric characters

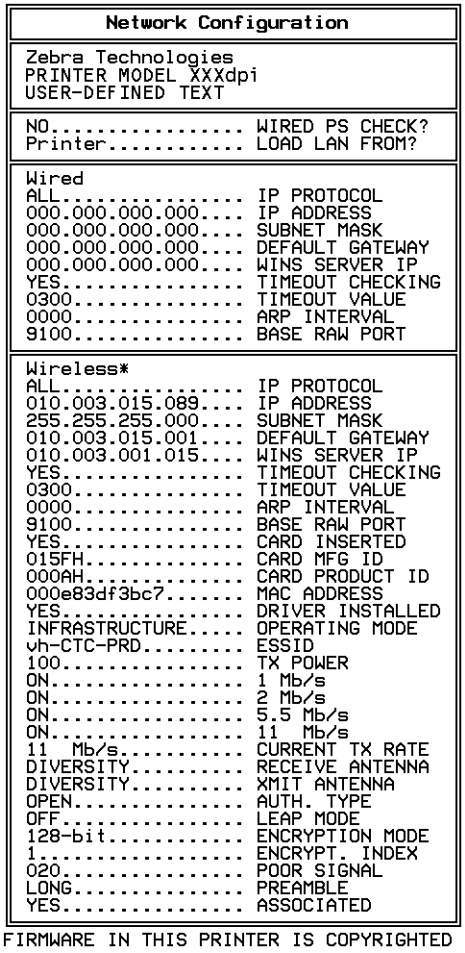
~WL

Print Network Configuration Label

Description Use the ~WL command to generate a network configuration label (Figure 16).

Format ~WL

Figure 16 • Network Configuration Label



^WP

Set Wireless Password

Note • This command does not apply to the S4M.

Description This command sets the four-digit wireless password (not the same as the general printer password). If the wireless password is **0000**, the Wireless Print Server runs in an "unprotected" mode, which means that you do not need to enter the wireless password through the control panel to view or modify wireless settings.

If a wireless password is set, the values for the following parameters will not appear through the control panel until the wireless password is entered:

- MAC Address
- ESSID
- Auth Type
- Leap Mode (if applicable)
- Encryption Mode
- Encryption Index
- Reset Network

Format `^WPa,b`

The following table identifies the parameters for this format.

Parameters	Details
a = old wireless password	*Accepted Values:* 0000 through 9999 *Default Value:* 0000
b = new wireless password	*Accepted Values:* 0000 through 9999 *Default Value:* 0000

^WR

Set Transmit Rate

Description Use this command to change the transmission parameters.

Format `^WRa,b,c,d,e`

The following table identifies the parameters for this format.

Parameters	Details
a = rate 1	Sets the 1 Mb/s transmit rate. *Accepted Values:* Y (On), N (Off)
b = rate 2	Sets the 2 Mb/s transmit rate. *Accepted Values:* Y (On), N (Off)
c = rate 5.5	Sets the 5.5 Mb/s transmit rate. *Accepted Values:* Y (On), N (Off)
d = rate 11	Sets the 11 Mb/s transmit rate. *Accepted Values:* Y (On), N (Off)
e = transmit power	*Accepted Values:* 1, 5, 20, 30, 50, 100

~WR

Reset Wireless Card

Description This command reinitializes the wireless card and the print server when the Wireless Print Server is running.

Format ~WR

^WS

Set Wireless Card Values

Description This command sets the wireless card values for ESSID, Operating Mode, and Card Preamble.

Format `^WSe,o,p`

The following table identifies the parameters for this format.

Parameters	Details
e = ESSID value	*Accepted Values:* Any value up to 32 characters, including all ASCII and Extended ASCII characters, including the space character. When this parameter is left blank, the ESSID is not changed. *Default Value:* 125
o = operating mode	*Accepted Values:* I (Infrastructure), A (Adhoc) *Default Value:* I
p = wireless card preamble	*Accepted Values:* L (Long), S (Short) *Default Value:* L

Notes •

5 Troubleshooting

This chapter provides solutions to problems related specifically to the Wireless Print Server.

For print quality or other printer-specific problems, refer to the troubleshooting section in the user guide for your printer. For problems with the wireless card or access point not addressed here, refer to the appropriate third-party documentation.

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Encryption Issues 53
IP Issues 54

General Issues

Table 6 • General Issues and Recommended Solutions

Issue	Possible Cause	Recommended Solution
The printer acknowledges the wireless card and indicates a signal strength, but the printer does not appear to connect to the network.	The combination of signal strength and signal quality at the printer may not be good enough to establish a connection to the network.	Move the printer or the access point to another location, or remove any obstructions between the two. A direct line of site between the printer and access point provides the best results. Refer to the third-party documentation for your access point for additional recommendations and limitations.
	The printer is associated with, but not authenticated with, your access point.	**1.** Check your encryption settings. **2.** Verify that your MAC address is approved for the access point.
The printer does not acknowledge the wireless card.	The card may not be inserted correctly.	Make sure that the wireless card is correctly seated in the PCMCIA slot.
	Your printer may not be equipped for the ZebraNet Wireless Print Server.	Contact your authorized Zebra representative for information about purchasing the ZebraNet Wireless Print Server.
	The card may not be supported for use with the ZebraNet Wireless Print Server.	Make sure that you are using a compatible wireless card (see *Supported Wireless Cards* on page 4).
After a firmware upgrade, the printer will not connect to the network.	Network settings need to be updated. **Note** • This does not apply to the S4M.	**1.** Through the printer's control panel, press SETUP/EXIT to enter Setup mode. **2.** Press SETUP/EXIT again to access the printer's save and default options. **3.** Scroll to DEFAULT NET. **4.** Press SETUP/EXIT. The network settings are returned to factory defaults. **5.** Reconfigure your printer to use the Wireless Print Server (see *Configuration* on page 7). If you saved the ZPL script generated by the SetWLAN utility, simply send this file to the printer. If you were using a wireless password, you need to set it again (see *^WP* on page 46). **6.** Power cycle the printer for the settings to take effect.

Table 6 • General Issues and Recommended Solutions (Continued)

Issue	Possible Cause	Recommended Solution
My wireless connection is inconsistent. The signal strengths change back and forth between high and low numbers.	An access point may be bad. The card appears to be switching affiliations between access points.	Check the access points on your WLAN, particularly the one closest to the printer.
	The wireless card is repeatedly associating with two or more access points because of varying signal strengths.	Check the access points on your WLAN to determine what is causing the signal strengths to vary.

Encryption Issues

Table 7 • Encryption Issues and Recommended Solutions

Issue	Possible Cause	Recommended Solution
The entry field for WEP keys on the printer's web page does not display all 26 characters.	The field accepts 26 characters, but they may not be able to display all at once because of your browser or system settings.	Use the left and right arrow keys on your keyboard to move the cursor in the WEP key field and reveal characters that may not display.
I set encryption keys using the ^WE ZPL command, and now my wireless system does not function.	The ZPL string that you sent to the printer may not have been correct. The printer may be using the wrong encryption key or looking for one that is undefined.	Resend the ^WE command (see *^WE* on page 41). Make sure that all of the required commas are in place in the command. A missing or extra comma in this command can disable the wireless system.

IP Issues

Table 8 • IP Issues and Recommended Solutions

Issue	Possible Cause	Recommended Solution
The printer shows IP address 192.168.254.254, which does not appear to work.	IP address 192.168.254.254 is a default address. The printer shows this address after it times out while trying to connect. The printer was likely set to an incorrect static IP address.	Enter a valid static IP address. OR Set IP Protocol to All.
	The DHCP server is not functioning, so a dynamic IP address is not being assigned. The printer timed out and shows the default IP address of 192.168.254.254.	Check the DHCP server.
On my control panel, the IP settings are missing or show all zeroes (000.000.000.000).	Actual IP settings (IP Resolution, IP Address, Subnet Mask, and Default Gateway) will only appear when the printer is associated to and authenticated with the WLAN. Until the time that the printer recognizes the existence of a ZebraNet print server, these parameters will not show through the control panel. After the print server is recognized, all zeroes will display until the printer obtains an IP address or defaults to address 192.168.254.254.	**1.** Allow more time for the printer to complete its connection and obtain an IP address. **2.** If the printer does not connect, check that there is an adequate signal between the printer and the access point. If necessary, move the printer or the access point to another location, or remove any obstructions between the two. A direct line of site between the printer and access point provides the best results. Refer to the third-party documentation for your access point for recommendations and limitations. **3.** Check the IP Protocol setting. If using a static setting, the value entered might not be valid.
When I select GLEANING ONLY for IP PROTOCOL, the IP address that I assign to the printer is not set permanently.	Using GLEANING ONLY is not recommended when the wireless option is installed.	Use the SetWLAN utility or ZPL commands to set a permanent IP address. For more information, see *Configure Using the SetWLAN Utility* on page 9 or *ZPL Commands for the Wireless Print Server* on page 33.
The IP address for my wired print server does not bring up the printer home page.	If both a wired and wireless print server are installed on a printer at the same time and the wireless printer is the primary/active print server, the printer web pages can be accessed only through the wireless print server's IP address.	In your browser window, type in the IP address of the wireless print server.

A

WebView Web Pages

This appendix provides details about the ZebraLink WebView web pages for a printer that is running the Wireless Print Server.

WebView is a browser-based application that provides real-time configuration, control, and monitoring capabilities for your printer. The web pages displayed by the printers are not static. They contain real-time information about the printer's present state of operation, including printer status, error conditions, and all printing parameters.

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Home Page

To access the printer's home page, you need the printer's IP address. When the printer is connected to your WLAN, you can find the IP address using the printer's control panel.

Note • Refer to the user guide for your printer for specific instructions on how to use the control panel.

The printer's home page is the first web page that opens. This page includes a menu of hyperlinks that allow you to make modifications to the printer, print server, and network settings. Other changeable settings through the home page include:

- Network Status, Error, and Warning reports
- Directories of objects stored in Flash memory and RAM devices
- Objects, stored fonts, images, programs, and ZPL II formats

To access your printer's home page, complete these steps:

1. From the control panel, enter Setup mode.
2. Scroll through the parameters until you reach `IP ADDRESS` (level 3 parameter `CHANGE IP ADDRESS` on the S4M).
3. Note the IP Address (do not include any leading zeroes):

   _____
4. Go to Internet Explorer.
5. In the address box, type the IP address for the printer (do not include www or any leading zeroes), then press Enter.

   The printer's home page displays (Figure 17).

Figure 17 • Printer Home Page

For more information about the options listed on the printer home page, see the following sections:

- *View Printer Configuration* on page 58
- *View and Modify Printer Settings* on page 59
- *Directory Listing* on page 69
- *Alert Setup* on page 73
- *Printer Controls* on page 76
- *Print Server Settings* on page 78

View Printer Configuration

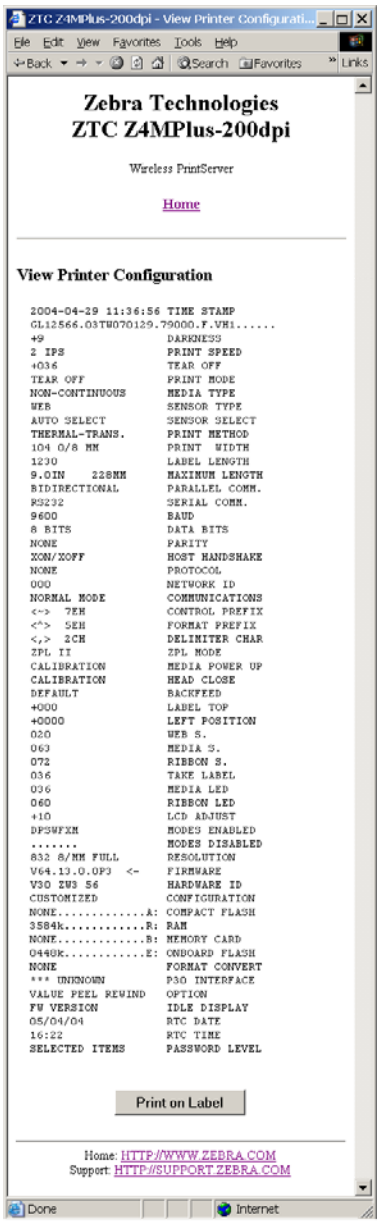
The View Printer Configuration menu option provides accurate, up-to-the-minute information on the printer's current state. An administrator can conveniently find information on the Virtual Configuration Label and also check on the status of printer ports.

To view the printer configuration through WebView, complete these steps:

1. From the printer home page, click **View Printer Configuration**.

   WebView displays the configuration settings (Figure 18).

Figure 18 • View Printer Configuration



2. To receive updated printer information from this view, refresh the browser page.

View and Modify Printer Settings

This section provides you with steps for accessing and modifying printer settings with a ZebraLink-enabled printer. It also provides illustrations of the various pages you can access.

To access the View and Modify Printer Settings, complete these steps:

1. From the printer home page, click **View and Modify Printer Settings**.

   The printer prompts you for a password.

2. Enter the password for your printer. The default password is **1234**.

3. Click **Submit Changes**.

   The following statement appears:

   Access Granted. This IP Address now has admin access to the restricted printer pages. Please Click here to proceed

4. Click on the statement.

   The View and Modify Printer Settings page displays (Figure 19). Table 9 on page 61 shows the screens that appear when you click on the menu items on this page.

Figure 19 • View and Modify Printer Settings Page

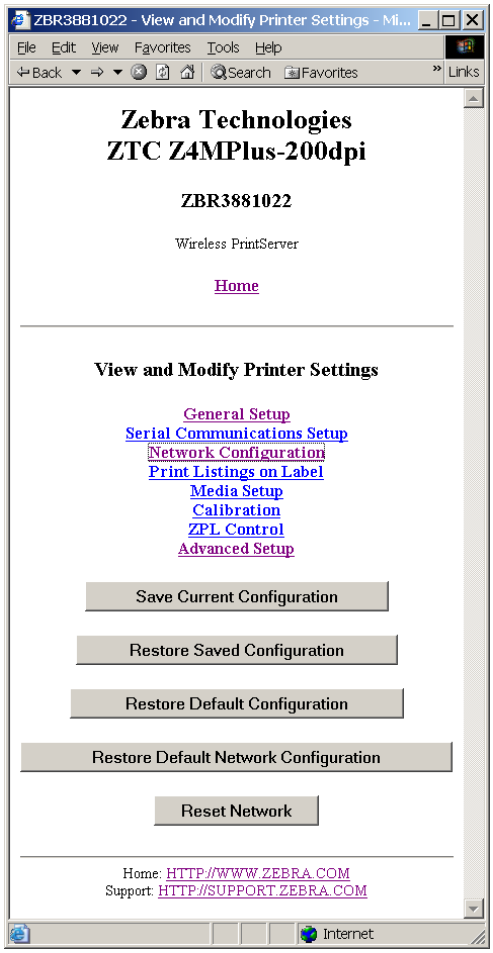
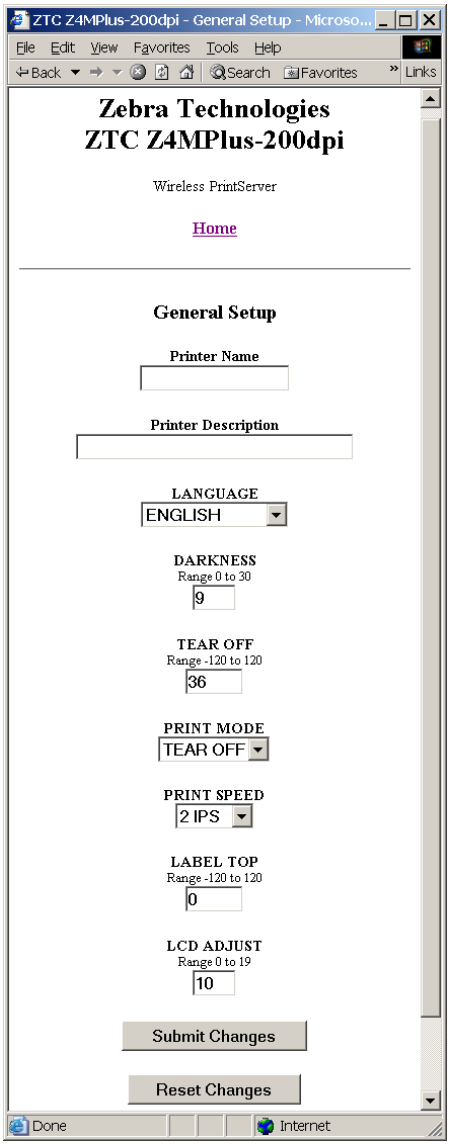


Table 9 • Subscreens: View and Modify Printer Settings Screen

General Setup



Serial Communications Setup

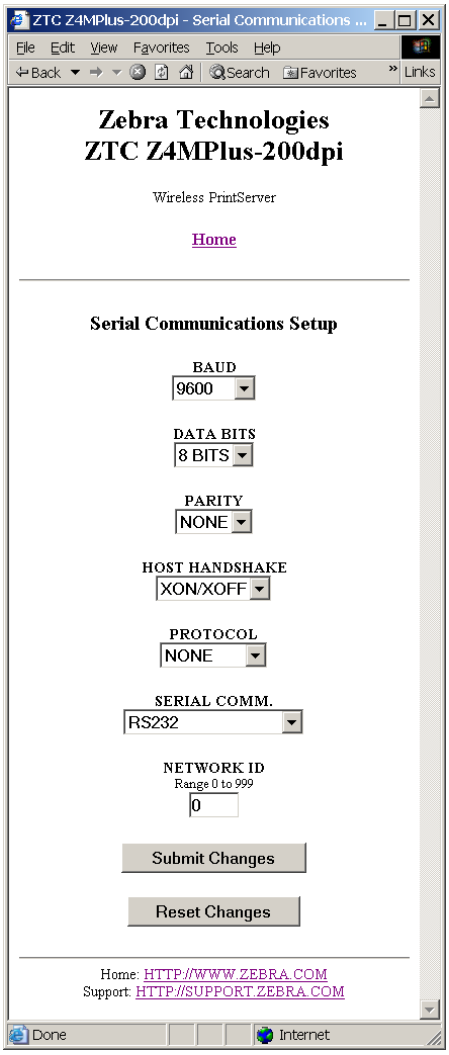


Table 9 • Subscreens: View and Modify Printer Settings Screen (Continued)

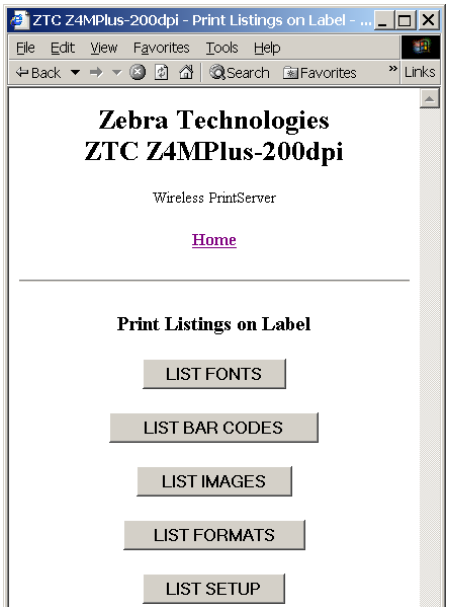
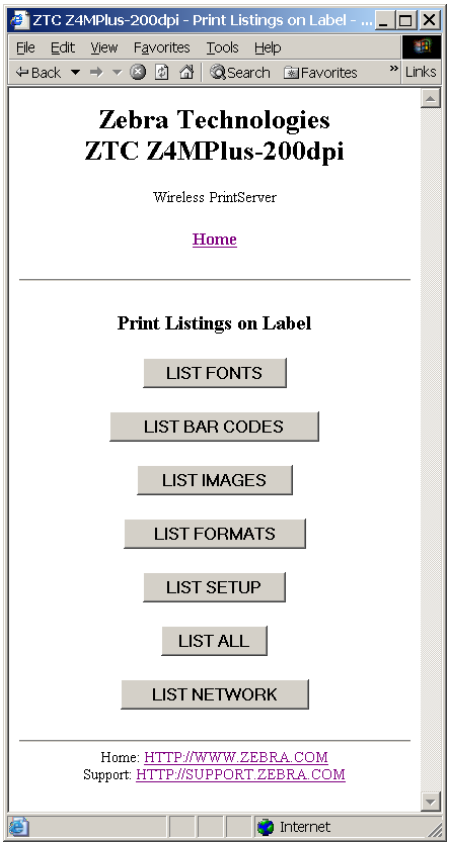
Network Configuration Menu (see Table 9 on page 61 for subscreens)	Print Listings on Label
	

Table 9 • Subscreens: View and Modify Printer Settings Screen (Continued)

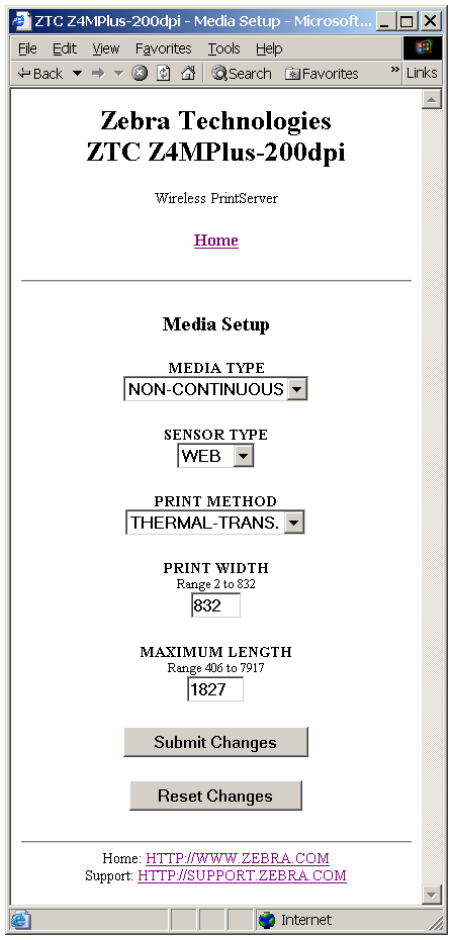
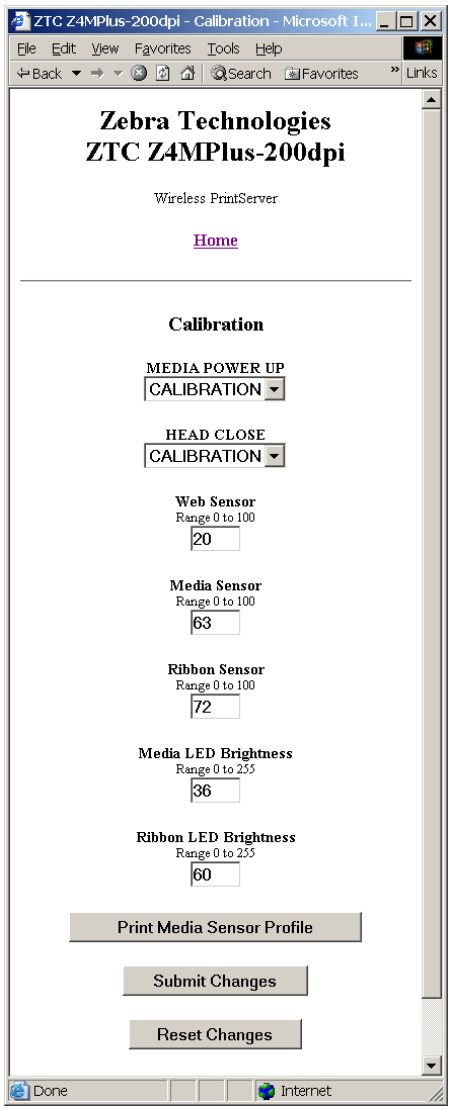
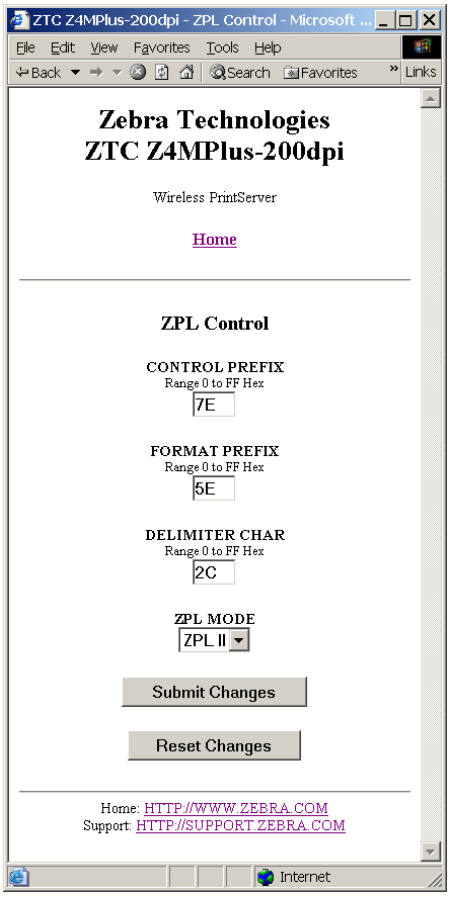
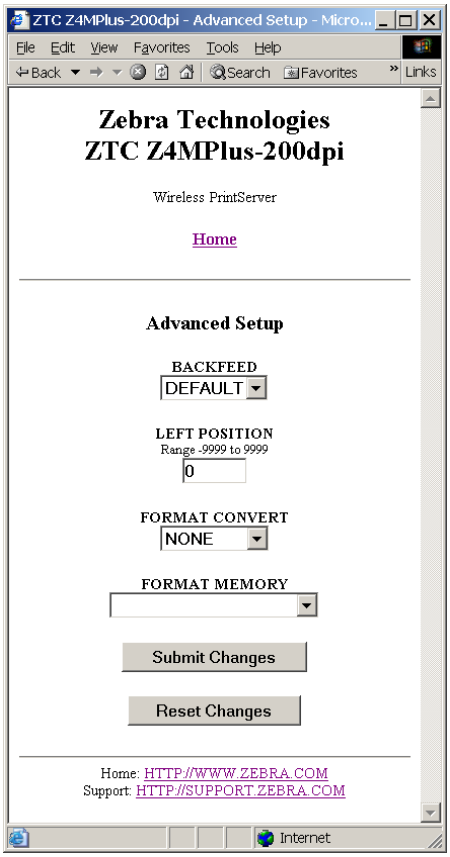
Media Setup	Calibration
	

Table 9 • Subscreens: View and Modify Printer Settings Screen (Continued)

ZPL Control



Advanced Setup



Network Configuration Screens

This section shows the shows the screens that appear when you click on the menu items on the Network Configuration menu (Figure 20).

To access the Network Communications menu, complete these steps:

1. From the printer home page, click **View and Modify Printer Settings**.

   The printer prompts you for a password.

2. Enter the password for your printer. The default password is **1234**.

3. Click **Submit Changes**.

   The following statement appears:

   Access Granted. This IP Address now has admin access to the restricted printer pages. Please Click here to proceed

4. Click on the statement.

   The View and Modify Printer Settings page displays (see Figure 19 on page 60).

5. Click **Network Configuration**.

   The Network Configuration Menu displays (Figure 20). Table 10 shows the screens that appear when you click on the menu items on this page.

Figure 20 • Network Configuration Menu

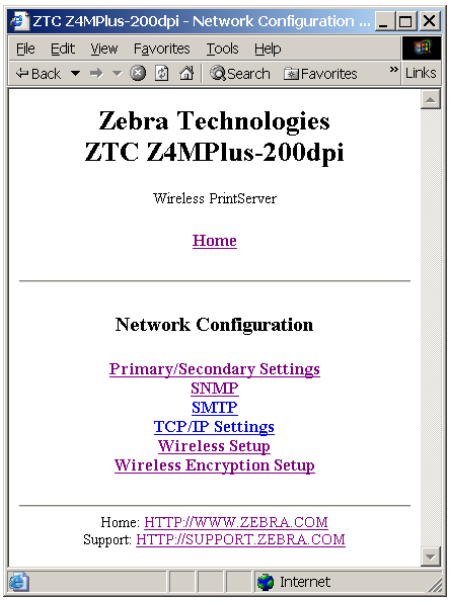
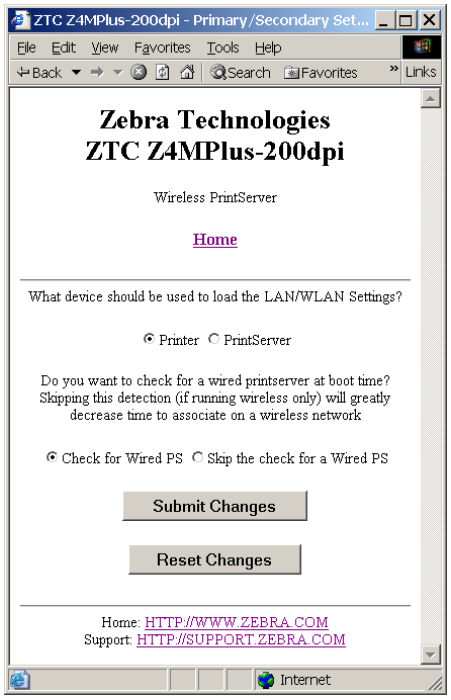


Table 10 • Subscreens: Network Communications Setup

Primary/Secondary Settings



SNMP

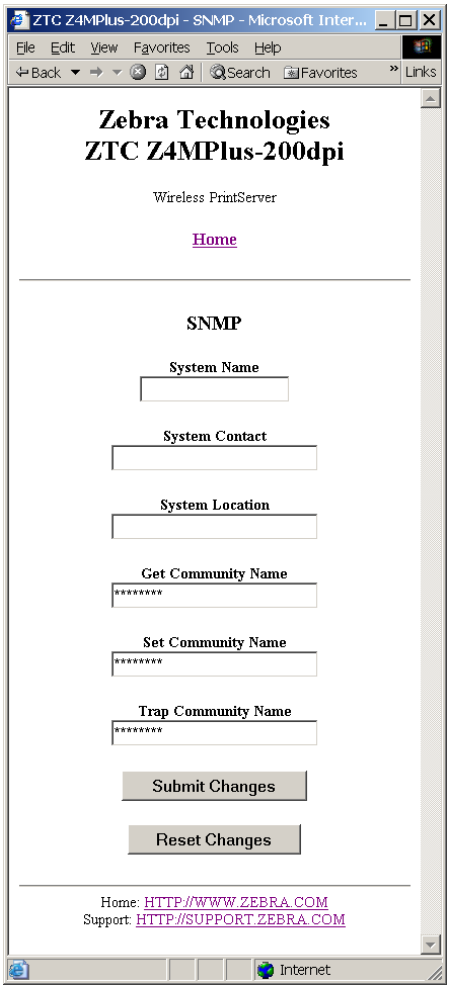
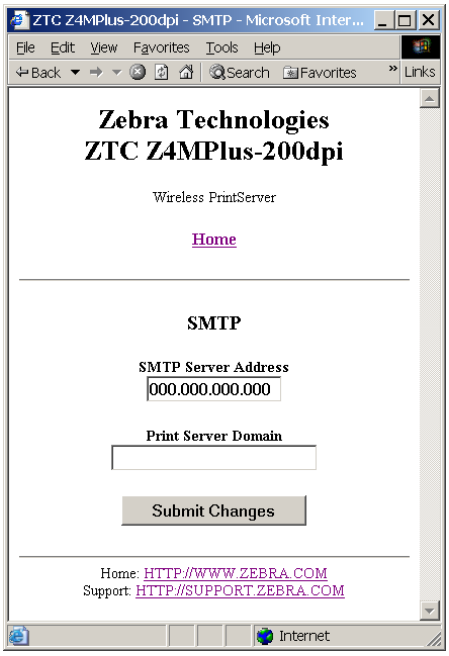


Table 10 • Subscreens: Network Communications Setup (Continued)

SMTP



TCP/IP

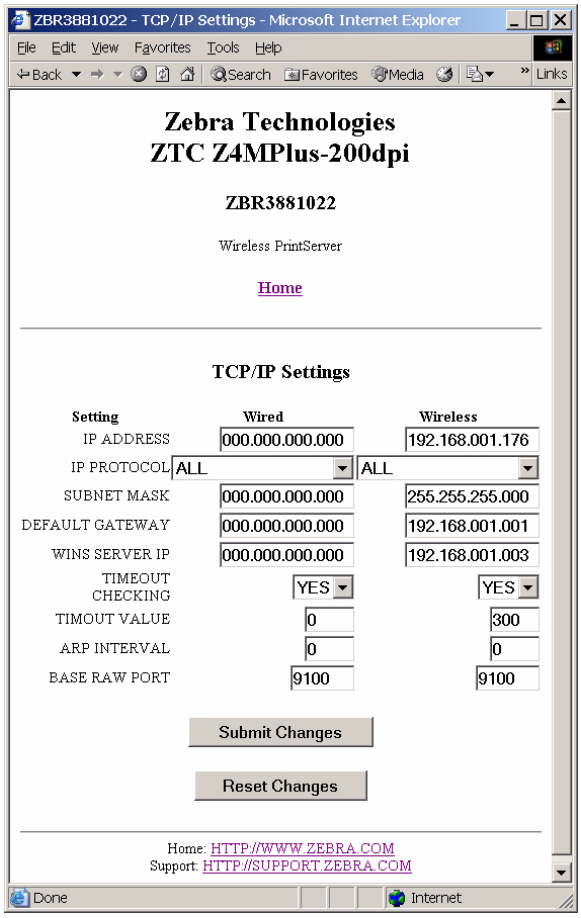
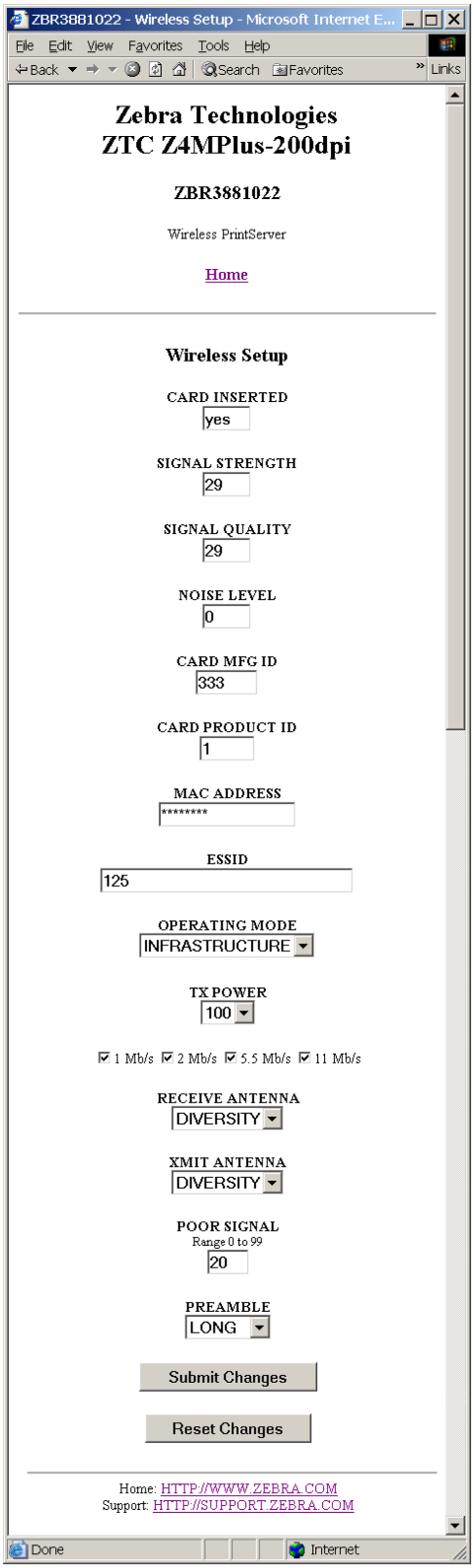
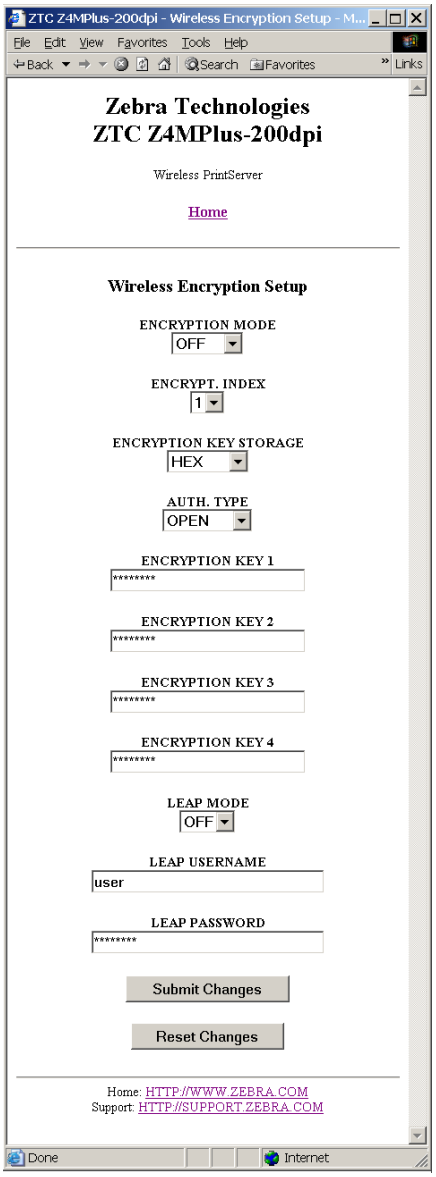


Table 10 • Subscreens: Network Communications Setup (Continued)

Wireless Setup



Wireless Encryption Setup



Directory Listing

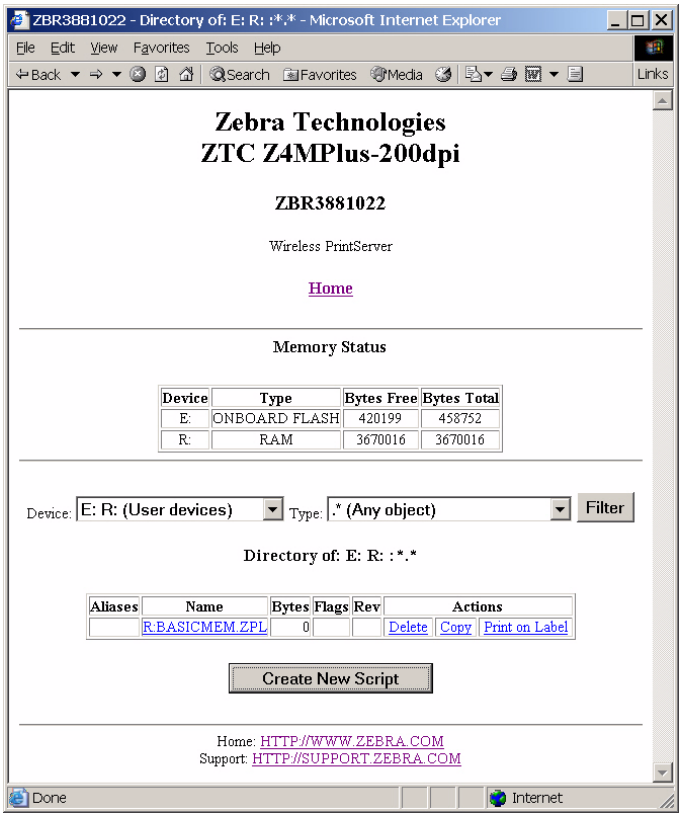
The directory page provides a listing of all file system devices (E:, R:, Z:). The size, name, and location of each stored object are displayed.

To view the Directory Listing, complete these steps:

1. From the printer home page, click **Directory Listing**.

   The Directory Listing screen displays (Figure 21).

Figure 21 • Directory Listing Screen



To create a new item on the Directory Listing screen, complete these steps:

1. From the Directory Listing screen, click **Create New Script**.

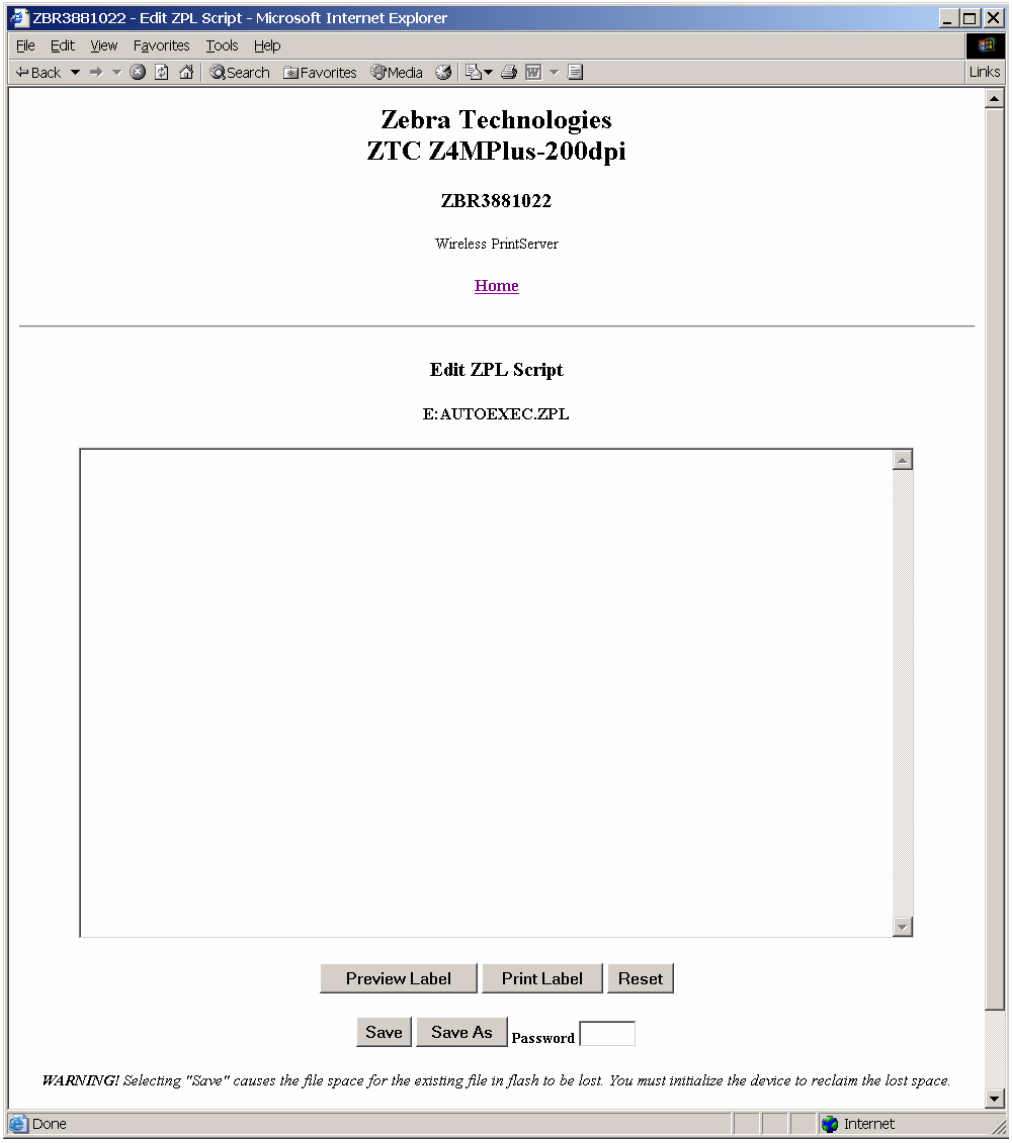
   The Create New Script screen displays (Figure 22).

Figure 22 • Create New Script Screen

2. Select a device type from the drop-down menu.
3. Type a name for the file in the Name field.
4. Click **Edit**.

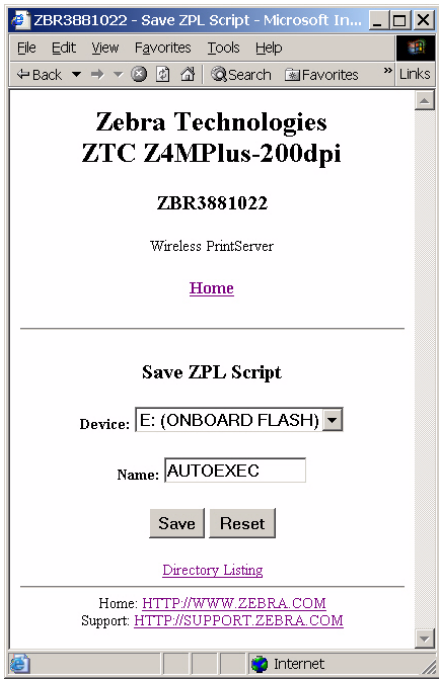
   The Edit ZPL Script screen displays (Figure 23).

Figure 23 • Edit ZPL Script Screen



5. Enter the ZPL code in the text field.

6. Click one of the available buttons:

Button	Function/Operation
Preview Label	Displays a graphic representation of the label that results from the ZPL code.
Print Label	Sends the ZPL code to the printer.
Reset	Clears the text field
Save	**a.** Enter the printer password in the password field. **b.** Click **Save**. If the correct password was entered, saves the label to the ZPL file name entered on the Create New Script screen (see Figure 22 on page 70).
Save As	**a.** Enter the printer password in the password field. **b.** Click **Save As**. The Create New Script screen displays (Figure 23). **Figure 24 • Save ZPL Script Screen**  **c.** Enter a file name in the Name field. **d.** Click **Save**. If the correct password was entered on the Edit ZPL Script screen, the file is saved.

Alert Setup

For the printer to interact with ZebraNet Alert, SNMP settings must be established in these areas:

- the printer, via the WebView interface
- the Alert Printer Management Utility for logging SNMP traps

The ZebraLink messaging system provides for more than SNMP notification. Alerts can be routed to various destinations:

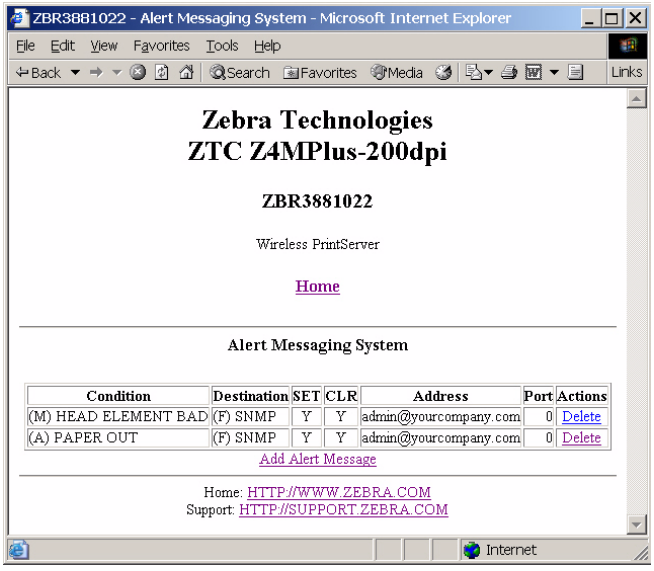
- TCP
- UDP
- e-mail
- serial port
- parallel port destinations

To view Alert Setup, complete these steps:

1. From the printer home page, click **Alert Setup**.

   The Alert Messaging System screen displays (Figure 25).

Figure 25 • Alert Messaging System Screen



Establishing E-Mail Alert Messaging

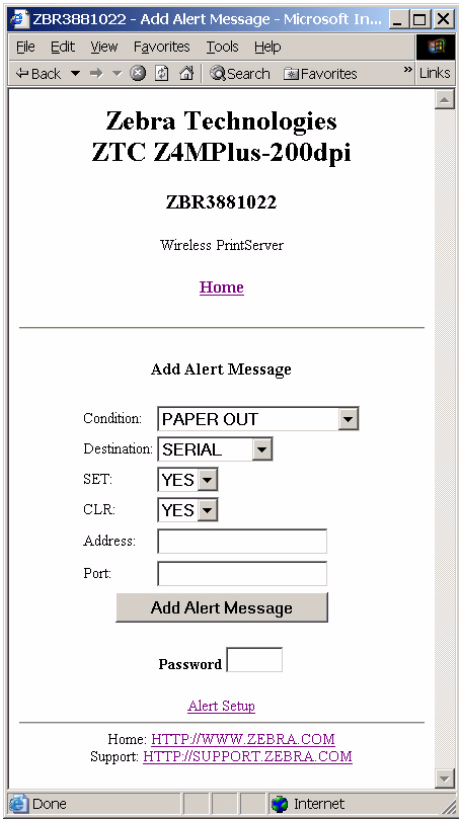
ZebraNet Alert allows printer errors to be sent directly to any valid email address. You can set up multiple e-mail addresses for routing different error messages or split notifications between e-mail and other network management tools.

To begin receiving e-mail notification of errors, complete these steps:

1. From the Alert Messaging System screen, click **Add Alert Message**.

   The Add Alert Message screen displays (Figure 26).

Figure 26 • Add Alert Message Screen



2. From the drop-down menu, specify the condition to send over e-mail, such as HEAD ELEMENT BAD or PAPER OUT.
3. Select a destination from the drop-down menu.
4. Enter a valid email address to which the messages will be sent. (The Port field can be ignored for e-mail setup.)
5. Enter the printer password.
6. Click **Add Alert Message**.
7. Click **Home** to return to the printer's home page.

8. From the printer's home page, click **View and Modify Printer Settings**. (You may be prompted for the printer's password if it was not entered recently.)

   The View and Modify Printer Settings screen displays.

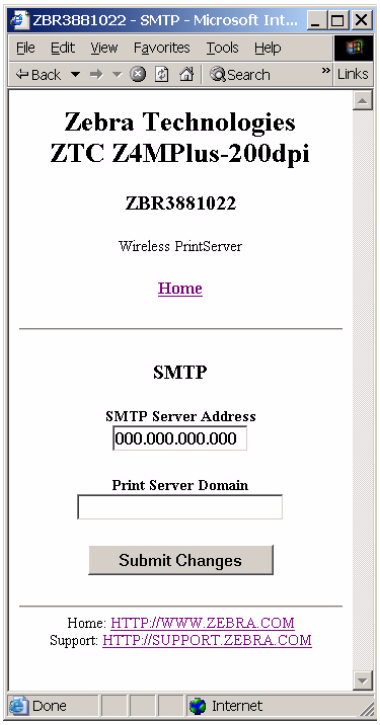
9. Click **Network Configuration**.

   The Network Configuration Menu displays.

10. Click **SMTP**.

    The SMTP Setup screen displays (Figure 27).

Figure 27 • SMTP Setup Screen



11. Specify your SMTP server address and Print Server domain.

12. Click **Submit Changes**.

    The printer displays the following:

    Changes were successfully saved (temporarily).

13. Click **View and Modify Printer Settings**.

    The View and Modify Printer Settings page for your printer returns (see Figure 19 on page 60).

14. Click **Save Current Configuration**.

    The printer displays **Current configuration saved**.

Printer Controls

This page offers control over basic printer functions.

To view Printer Controls, complete these steps:

1. From the printer home page, click **Printer Controls**.

   The printer prompts you for a password.

2. Enter the password for your printer. The default password is **1234**.

3. Click **Submit Changes**.

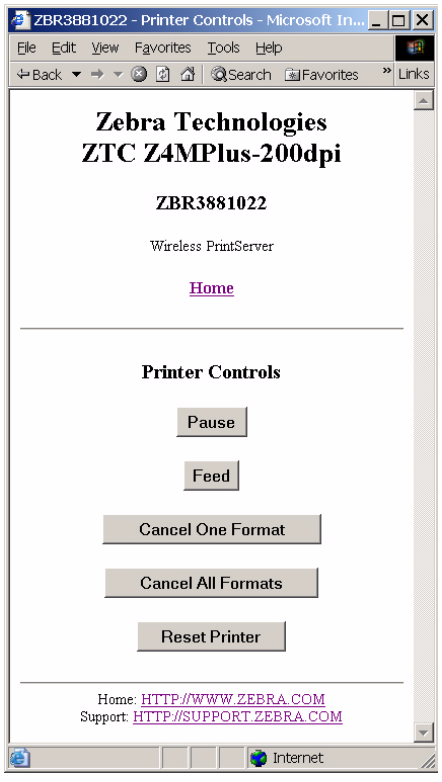
   The following statement appears:

   Access Granted. This IP Address now has admin access to the restricted printer pages. Please Click here to proceed

4. Click on the statement.

   This Printer Controls screen displays (Figure 28).

Figure 28 • Printer Controls Screen



5. Click one of the available buttons:

Button	Function
Pause	Toggles the pause option on the printer
Feed	Causes printer to feed one label
Cancel One Format	Cancels the currently printing format
Cancel All Formats	Cancels all formats
Reset Printer	Causes the printer to perform its standard reset without cycling power **a.** Click **Reset Printer**. The printer prompts **Are you sure you want to reset the printer?** **b.** Click **Reset**. The printer resets itself.

Print Server Settings

This section provides you with instructions for viewing the current print server settings.

Important • To apply changes made in this section, you need to use the default user ID and password:

User ID: **admin**

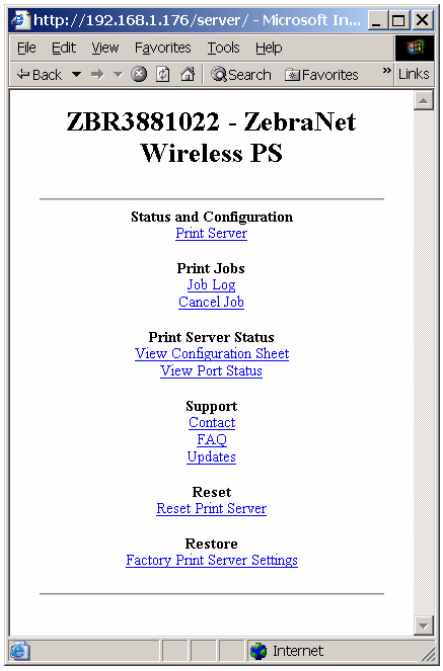
Password: **1234**

To view the print server menu, complete these steps:

- From the printer home page, click **Print Server Settings**.

  The Print Server screen opens (Figure 29).

Figure 29 • Print Server Screen



Proprietary Statement

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Product Improvements

Continuous improvement of products is a policy of Zebra Technologies. All specifications and designs are subject to change without notice.

FCC Compliance Statement

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B Digital Devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the product manuals, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, the user is encouraged to do one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Radiation Exposure Statement (for printers with RFID encoders)

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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